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U. S. DEPARTMENT OF AGRICULTURE.
WEATHER BUREAU.
WILLIS L. MOORE, Chief.

MONTHLY AND ANNUAL

METEOROLOGICAL SUMMARY

AND COMPARATIVE DATA

—OF—

BOSTON, MASS.

For the Year Ending December 31, 1911.

BOSTON, MASS.
WEATHER BUREAU OFFICE
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METEOROLOGICAL SUMMARY AND COMPARATIVE DATA

—OF—

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For the Year Ending December 31, 1911.

BOSTON, MASS.
WEATHER BUREAU OFFICE
JANUARY 3, 1912

ANNUAL METEOROLOGICAL SUMMARY.

MONTH.	TEMPERATURE. (Degrees Fahrenheit.)							Relative humidity (per cent).	PRECIPITATION. (In. and hundredths.)				Percentage of sunshine.	WINDS.					NUMBER OF DAYS WITH—											
	MEAN.			EXTREMES.												MAXIMUM (For five min.).											MAX. TEMP.		MIN. TEMP.	
	Maximum.	Minimum.	Monthly.	Maximum.	Date.	Minimum.	Date.		Total.	Maximum in 24 hours.	Date.	Snowfall.		Average hourly velocity.	Prevailing direction.	Velocity.	Direction.	Date.	Gales (40 miles per hour or over).	Clear.	Partly cloudy.	Cloudy.	Precipitation (0.01 in. or over).	Thunderstorms.	Fog, dense.	Snow (0.1 in. or over).	32 degrees or below.	90 degrees or above.	32 degrees or below.	Zero or below.
January	40	24	32	60	2	4	16	70	2.28	0.89	3–4	0.7	37	11.0	w.	46	nw.	28	2	8	6	17	15	0	1	4	6	0	26	0
February	34	20	27	56	26	4	6	69	2.85	0.95	3–4	19.5	47	11.7	nw.	39	w.	27	0	9	5	14	10	0	0	9	13	0	26	0
March	43	28	35	66	22	14	16	63	2.95	0.83	15–16	3.1	64	12.8	w.	42	w.	16	1	13	6	12	14	1	0	3	4	0	19	0
April	54	38	46	80	27	23	2	60	2.28	1.23	4–5	7.7	75	11.5	w.	40	ne.	20	1	11	11	8	8	0	0	4	0	0	5	0
May	72	53	62	92	22	33	4	69	0.35	0.17	25	0	73	10.1	sw.	34	nw.	2	0	11	8	12	5	2	1	0	0	1	0	0
June	73	58	66	86	19	50	13	75	3.67	1.68	12–13	0	67	10.1	w.	31	w.	1	0	8	8	14	8	4	0	0	0	0	0	0
July	86	68	77	104	4	57	28	65	4.65	3.49	28	0	73	9.2	w.	34	w.	28	0	11	10	10	4	3	0	0	0	9	0	0
August	76	62	69	92	10	55	31	78	4.17	1.17	31	0	65	8.4	e.	32	nw.	19	0	12	5	14	9	4	1	0	0	3	0	0
September	70	55	63	85	2	41	14	77	2.95	1.12	25–26	0	64	9.5	nw.	29	se.	15	0	10	7	13	10	1	1	0	0	0	0	0
October	59	46	53	73	12	31	28	76	2.27	0.52	21–22	0	51	9.4	nw.	33	nw.	5	0	11	6	14	11	0	0	0	0	0	0	0
November	50	34	42	68	12	25	17	72	4.29	1.01	18	0.3	58	12.3	w.	38	sw.	12	0	10	10	10	11	1	1	1	0	0	13	0
December	46	33	39	68	12	15	5	69	3.07	1.49	22–23	3.7	47	10.6	w.	48	w.	28	2	10	6	15	8	0	1	2	0	0	11	0
Total	58.6	43.3	50.9	104	July 4	4	Feb. 6	70.2	35.78	3.49	July 28	35.0	60	10.6	w.	48	w.	Dec 28	6	124	88	153	113	16	6	23	23	13	100	0

COMPARATIVE DATA.

MONTHLY AND ANNUAL MEAN TEMPERATURES.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1871.	26	29	42	47	58	66	71	72	**59**	54	37	28	48.9
1872.	27	28	**26**	47	59	69	76	73	64	52	41	23	48.8
1873.	25	26	34	45	57	67	73	70	63	54	**33**	32	48.2
1874.	30	27	34	**39**	55	66	73	68	64	53	42	31	48.6
1875.	**20**	22	31	43	58	67	72	71	61	50	35	30	**46.6**
1876.	31	27	33	44	55	69	74	70	60	**48**	41	**22**	47.9
1877.	25	**34**	35	44	55	67	71	72	65	52	44	36	50.1
1878.	28	31	40	48	56	65	74	70	64	56	41	30	50.2
1879.	24	25	34	42	60	65	71	69	62	**58**	39	32	48.4
1880.	35	32	33	46	**64**	69	72	71	65	52	38	27	50.3
1881.	22	28	37	44	57	62	70	71	**68**	54	44	39	49.6
1882.	26	30	36	43	**51**	67	73	72	64	55	39	30	48.8
1883.	24	29	31	45	56	**70**	72	68	60	**48**	43	29	47.9
1884.	24	31	34	44	55	67	69	70	67	53	41	34	49.0
1885.	27	**21**	28	47	53	67	72	68	60	52	44	33	47.6
1886.	26	27	33	49	57	63	71	68	63	52	43	28	48.4
1887.	25	29	32	44	60	65	75	68	60	52	42	32	48.5
1888.	**20**	28	32	43	53	67	69	70	60	**48**	44	35	47.3
1889.	**36**	26	38	43	60	69	69	67	63	**48**	45	38	50.7
1890.	32	33	35	46	57	64	71	69	63	51	42	26	49.1
1891.	31	32	34	48	56	65	69	70	67	52	41	**40**	50.4
1892.	28	28	33	48	56	**70**	73	70	62	53	41	30	49.4
1893.	21	27	34	44	56	65	71	70	60	55	42	30	47.9
1894.	30	27	42	47	58	69	74	68	65	54	38	32	50.3
1895.	29	25	35	46	60	67	69	71	66	50	45	36	49.8
1896.	25	29	32	47	60	66	72	71	62	50	**46**	30	49.2
1897.	28	31	37	49	58	62	72	70	63	54	41	34	49.9
1898.	29	33	43	44	56	66	72	**73**	66	54	42	32	50.8
1899.	29	27	34	48	58	**70**	73	69	62	54	42	36	50.2
1900.	30	29	34	49	55	69	74	71	65	57	45	33	50.8
1901.	28	24	36	44	54	68	73	71	65	54	37	32	49.0
1902.	27	29	43	48	58	64	**68**	68	63	54	**46**	28	49.6
1903.	27	31	**44**	48	58	**60**	71	**65**	64	54	40	29	49.5
1904.	22	23	35	45	61	64	71	69	62	51	38	26	47.1
1905.	25	23	37	47	58	65	73	69	62	54	45	35	49.1
1906.	**36**	30	32	47	58	66	70	72	65	52	42	29	50.0
1907.	27	22	38	43	52	65	72	70	64	50	43	37	48.7
1908.	31	27	39	47	59	**70**	74	69	66	55	44	33	**51.2**
1909.	30	33	37	48	56	69	72	69	63	53	**46**	31	50.6
1910.	32	30	42	**52**	58	65	75	69	63	56	41	28	50.8
1911.	32	27	35	46	62	66	**77**	69	63	53	42	39	50.9
M'ns	27.6	28.0	35.5	45.9	57.1	66.4	72.0	69.8	63.2	52.7	41.5	31.6	49.3

Note.—Bold-faced figures indicate highest and lowest monthly means

TEMPERATURE EXTREMES.

Month.	Maximum.	Year.	Day.	Minimum.	Year.	Day.
January	70	1876	1	—13	1882	24
February	64	1880	29	—11	1896	17
March	78	1910	25	— 8	1872	6
April	85	1872	26	11	1874	5
May	97	1880	26	31	1882	3
June	98	1874	29	42	1884	2
July	104	1911	4	46	1874	22
August	97	1881 1900	31 26	47	1880 1885 1894 1908	27 28 22 29
September	102	1881	7	34	1879	26
October	90	1881	1	25	1879	26
November	76	1909	12	— 2	1875	30
December	68	1911	12	—12	1883	23

MISCELLANEOUS DATA FOR 1911.

Barometric Pressure (reduced to sea-level). Mean, 30.04 inches; highest, 30.72 inches, April 12; lowest, 29.30 inches, November 18.

Temperature. Greatest daily range, 31°, March 22, April 27, May 7; least daily range, 2°, June 6 and August 27.

Greatest monthly range, 59°, May; least monthly range, 37°, August.

Highest mean temperature of three consecutive days, 88°, July 10-12; lowest mean temperature of three consecutive days, 14°, January 16-18.

COMPARATIVE DATA.

MONTHLY AND ANNUAL PRECIPITATION.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1871.	**0.92**	2.63	4.55	3.79	4.34	5.55	3.22	3.08	1.30	5.88	6.42	3.38	45.06
1872.	2.11	2.31	4.05	1.31	3.29	4.84	4.00	**10.68**	6.04	4.85	3.66	3.09	50.23
1873.	5.76	3.21	3.76	3.83	5.16	**0.54**	3.84	6.21	2.91	5.33	8.34	5.64	54.53
1874.	4.32	3.41	1.60	7.97	3.71	3.94	3.47	6.67	2.05	1.39	2.85	2.14	43.52
1875.	3.68	3.74	5.04	4.92	3.76	7.25	3.93	3.50	3.12	4.99	5.47	**0.75**	50.15
1876.	1.87	4.54	7.19	3.61	2.70	1.72	5.86	1.23	3.84	1.66	**11.03**	3.71	48.96
1877.	3.33	**0.45**	9.79	4.19	3.38	3.21	2.27	4.49	0.60	**8.84**	9.62	1.32	51.49
1878.	**7.60**	4.40	5.91	6.14	1.03	2.28	4.58	7.66	3.47	6.76	8.94	6.76	**65.53**
1879.	2.79	4.35	3.90	6.58	0.97	6.24	3.09	6.71	1.84	0.91	2.97	4.22	44.57
1880.	3.72	4.11	3.25	2.85	1.63	0.75	**6.86**	2.90	2.36	3.15	2.30	3.42	37.30
1881.	7.21	4.89	**9.86**	1.66	4.16	**7.79**	2.96	1.23	2.50	2.84	3.73	3.80	52.63
1882.	3.68	4.77	3.35	2.50	6.05	1.03	3.91	1.46	**10.93**	2.29	1.20	2.65	43.82
1883.	3.59	2.74	2.33	2.83	5.11	2.07	2.73	**0.39**	1.50	6.40	2.08	3.71	35.48
1884.	6.27	5.74	4.86	4.76	3.31	4.01	4.25	5.01	**0.31**	3.17	3.03	4.46	48.98
1885.	5.33	3.00	1.15	3.30	4.26	3.70	1.44	7.64	1.70	5.71	5.78	2.09	45.10
1886.	7.08	**7.04**	3.20	1.70	3.08	1.34	1.81	3.64	2.73	3.27	3.59	3.66	42.14
1887.	4.86	3.69	3.86	2.62	1.67	1.98	3.59	3.05	0.97	2.53	2.22	2.71	33.75
1888.	2.26	2.36	3.32	2.04	5.20	2.69	1.79	6.53	6.77	3.58	4.97	4.38	45.89
1889.	4.11	1.54	1.19	3.07	4.15	2.77	5.80	3.95	3.19	3.31	4.91	1.83	39.82
1890.	2.00	2.29	5.88	2.29	4.48	2.21	1.93	2.70	5.04	5.63	0.97	3.72	39.14
1891.	4.39	3.66	3.94	1.71	1.56	3.06	3.73	3.87	2.29	5.56	2.35	3.58	39.70
1892.	4.62	2.15	3.91	**0.93**	5.15	3.05	2.56	4.87	1.90	2.31	4.45	1.12	37.02
1893.	2.56	6.22	2.80	3.13	5.23	2.20	1.72	6.46	1.59	2.94	1.83	5.16	41.84
1894.	3.01	3.15	**1.01**	3.78	4.12	0.80	3.09	3.03	2.14	5.11	3.10	4.28	36.62
1895.	3.79	1.11	2.72	3.65	2.71	1.73	2.98	3.24	1.53	6.19	8.07	2.45	40.17
1896.	2.25	3.94	5.41	1.56	1.68	2.71	2.90	2.15	6.40	3.15	3.70	1.70	37.55
1897.	3 16	2.12	2.79	3.17	4.00	4.46	4.22	3.95	2.38	**0.41**	6.19	3.92	40.77
1898.	3.50	4.81	1.82	6.39	4.33	1.60	4.42	6.38	1.93	7.17	5.32	2.19	49.86
1899.	4.19	3.03	5.95	1.29	0.81	2.86	2.52	2.52	5.09	2.40	2.51	1.52	34.69
1900.	4.20	6.83	4.60	1.90	5.07	1.85	2.69	2.46	4.62	3.41	4.17	2.25	44.05
1901.	1.56	0.66	6.58	7.43	**6.31**	1.31	5.20	3.25	2.50	3.02	2.41	**8.49**	48.72
1902.	1.65	4.19	5.29	2.87	1.07	1.77	2.88	2.20	2.08	4.36	1.09	4.48	33.93
1903.	3.43	3.90	5.95	4.43	**0.32**	7.19	2.99	3.33	2.43	3.95	1.48	2.57	41.97
1904.	4.80	2.49	2.43	**9.14**	3.38	2.06	1.23	2.19	5.57	2.13	1.70	2.52	39.64
1905.	4.09	1.59	2.25	2.14	1.47	5.23	1.00	3.39	5.10	0.82	1.77	3.23	32.08
1906.	2.96	2.66	5.45	2.15	4.91	2.57	5.38	1.58	2.64	3.88	2.55	3.96	40.69
1907.	2.54	1.88	1.66	3.31	3.12	2.56	1.09	1.10	7.43	2.54	6.02	4.31	37.56
1908.	2.47	2.96	2.97	1.70	3.78	1.08	3.17	4.35	0.68	3.70	**0.74**	2.47	30.07
1909.	3.94	4.71	3.28	3.92	2.33	4.45	**0.97**	3.55	5.15	1.07	4.11	3.19	40.67
1910.	4.25	3.44	1.25	2.22	1.02	4.89	1.15	0.98	2.14	1.14	3.75	2.10	**28.33**
1911.	2.28	2.85	2.95	2.28	0.35	3.67	4.65	4.17	2.95	2.27	4.29	3.07	35.78
M'ns	3.71	3.40	3.98	3.44	3.27	3.10	3.21	3.85	3.21	3.66	4.04	3.32	42.19

NOTE.—Bold-faced figures indicate greatest and least monthly amounts.

EXTREMES OF PRECIPITATION AND WIND.

Month.	Precipitation.			Wind.			
	24-hour max.	Year.	Day.	Max. vel.	Direction.	Year.	Day.
January	3.25	1881	21–22	64	ne.	1886	9
February	4.45	1886	12	60	e.	1880	3
March	3.04	1877	26–27	72	s.	1877	9
April	3.18	1904	27–28	60	ne.	1891	3
May	3.00	1883	22	48	e.	1893	4
June	5.35	1875	9–10	41	e.	1903	12
July	3.49	1911	28	60	sw.	1879	16
August	4.99	1879	18–19	48	s.	1893	29
September	4.26	1905	3–4	60	n.	1888	26
October	4.92	1895	12–13	54	ne.	1890	19
November	5.43	1876	20–21	65	w.	1875	29
December	2.87	1888	17–18	60	e.	1900	5

MISCELLANEOUS DATA FOR 1911.—Continued.

Precipitation. Longest period without precipitation, 17 days, July 29–August 14.
Longest period with precipitation, 7 days, August 25–31.
Frost. In Spring—Last killing frost occurred on April 18.
In Autumn—First killing frost occurred on October 8.
Snow. Greatest snowfall in 24 hours, 7.9 inches, February 7.
Greatest depth of snow on the ground, 8.1 inches, February 8.
Last snow in spring occurred on April 19; first snow in autumn occurred on November 15.
Thunderstorms. First thunderstorm, March 15; last thunderstorm, November 12.

J. W. SMITH,
District Forecaster.

1912

U. S. DEPARTMENT OF AGRICULTURE,
WEATHER BUREAU.
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ANNUAL METEOROLOGICAL SUMMARY.

MONTH.	TEMPERATURE. (Degrees Fahrenheit.)							Relative humidity (per cent).	PRECIPITATION. (In. and hundredths.)				Percentage of sunshine.	WINDS.						NUMBER OF DAYS WITH—										
	MEAN.			EXTREMES.												MAXIMUM (For five min.).											MAX. TEMP.		MIN. TEMP.	
	Maximum.	Minimum.	Monthly.	Maximum.	Date.	Minimum.	Date.		Total.	Maximum in 24 hours.	Date.	Snowfall.		Average hourly velocity.	Prevailing direction.	Velocity.	Direction.	Date.	Gales (40 miles per hour or over).	Clear.	Partly cloudy.	Cloudy.	Precipitation (0.01 in. or over).	Thunderstorms.	Fog, dense.	Snow (0.1 in. or over).	32 degrees or below.	90 degrees or above.	32 degrees or below.	Zero or below.
January.........	29	14	21	53	19	— 5	13	67	2.87	1.03	15	17.8	46	11.9	w.	43	w.	9	1	8	9	14	13	0	1	11	19	0	31	3
February	35	20	28	57	22	— 1	10	60	2.38	1.22	26–27	0.2	66	12.4	w.	46	sw.	22	1	14	4	11	6	1	0	2	11	0	27	2
March..........	44	28	36	64	31	11	4	66	4.18	1.13	12–13	9.1	64	11.4	nw.	47	sw.	15	1	14	6	11	13	0	0	13	7	0	16	0
April............	56	39	47	77	16	27	4	70	3.07	0.67	2	0.5	58	11.6	w.	37	nw.	23	0	4	8	18	19	1	2	2	0	0	4	0
May.....	67	50	59	86	24	42	5	68	4.04	0.72	8–9–16	0	62	10.9	sw.	35	sw.	17	0	10	8	13	2	6	0	0	0	0	0	0
June	78	58	68	92	2	45	8	58	0.27	0.24	6	0	86	11.1	w.	30	n.	13	0	13	11	6	3	1	0	0	0	2	0	0
July.............	82	64	73	99	9	56	1	67	5.16	2.52	18	0	74	9.7	sw.	29	nw.	19	0	10	10	11	5	6	0	0	0	10	0	0
August..........	77	61	69	92	25	49	31	72	1.94	0.66	11	0	70	9.1	nw.	34	w.	23	0	6	17	8	8	6	0	0	0	0	0	0
September......	71	56	64	90	11	40	30	77	1.67	0.80	15–16	0	60	8.5	sw.	27	nw.	30	0	7	11	12	9	1	0	0	0	1	0	0
October.........	66	49	57	86	7	36	16	67	1.00	0.61	23–24	0	66	9.5	w.	31	nw.	15	0	17	5	9	7	0	2	0	0	0	0	0
November	53	38	46	70	12	24	29	68	2.61	1.06	7–8	0.3	58	11.9	w.	43	e.	24	1	13	4	13	7	1	0	1	0	0	7	0
December......	45	32	38	69	6	15	9	68	5.36	1.51	27	9.2	56	11.7	w.	39	w.	9	0	12	9	10	7	0	1	2	1	0	16	0
Total.......	58.6	42.5	50.5	99	July 9	— 5	Jan. 13	67.3	34.55	2.52	July 18	37.1	64	10.8	w.	47	sw.	Mar 15	4	128	102	136	99	23	6	31	38	13	101	5

COMPARATIVE DATA.

MONTHLY AND ANNUAL MEAN TEMPERATURES.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1871.	26	29	42	47	58	66	71	72	**59**	54	37	28	48.9
1872.	27	28	**26**	47	59	69	76	73	64	52	41	23	48.8
1873.	25	26	34	45	57	67	73	70	63	54	**33**	32	48.2
1874.	30	27	34	**39**	55	66	73	68	64	53	42	31	48.6
1875.	**20**	22	31	43	58	67	72	71	61	50	35	30	**46.6**
1876.	31	27	33	44	55	69	74	70	60	**48**	41	**22**	47.9
1877.	25	**34**	35	44	55	67	71	72	65	52	44	36	50.1
1878.	28	31	40	48	56	65	74	70	64	56	41	30	50.2
1879.	24	25	34	42	60	65	71	69	62	**58**	39	32	48.4
1880.	35	32	33	46	**64**	69	72	71	65	52	38	27	50.3
1881.	22	28	37	44	57	62	70	71	**68**	54	44	39	49.6
1882.	26	30	36	43	**51**	67	73	72	64	55	39	30	48.8
1883.	24	29	31	45	56	**70**	72	68	60	**48**	43	29	47.9
1884.	24	31	34	44	55	67	69	70	67	53	41	34	49.0
1885.	27	**21**	28	47	53	67	72	68	60	52	44	33	47.6
1886.	26	27	33	49	57	63	71	68	63	52	43	28	48.4
1887.	25	29	32	44	60	65	75	68	60	52	42	32	48.5
1888.	**20**	28	32	43	53	67	69	70	60	**48**	44	35	47.3
1889.	**35**	26	38	43	60	69	69	67	63	**48**	45	38	50.7
1890.	32	33	35	46	57	64	71	69	63	51	42	26	49.1
1891.	31	32	34	48	56	65	69	70	67	52	41	**40**	50.4
1892.	28	28	33	48	56	**70**	73	70	62	53	41	30	49.4
1893.	21	27	34	44	56	65	71	70	60	55	42	30	47.9
1894.	30	27	42	47	58	69	74	68	65	54	38	32	50.3
1895.	29	25	35	46	60	67	69	71	66	50	45	36	49.8
1896.	25	29	32	47	60	66	72	71	62	50	**46**	30	49.2
1897.	28	31	37	49	58	62	72	70	63	54	41	34	49.9
1898.	29	33	43	44	56	66	72	**73**	66	54	42	32	50.8
1899.	29	27	34	48	58	**70**	73	69	62	54	42	36	50.2
1900.	30	29	34	49	55	69	74	71	65	57	45	33	50.8
1901.	28	24	36	44	54	68	73	71	65	54	37	32	49.0
1902.	27	29	43	48	58	64	**68**	68	63	54	**46**	28	49.6
1903.	27	31	**44**	48	58	**60**	71	**65**	64	54	40	29	49.5
1904.	22	23	35	45	61	64	71	69	62	51	38	26	47.1
1905.	25	23	37	47	58	65	73	69	62	54	45	35	49.1
1906.	**36**	30	32	47	58	66	70	72	65	52	42	29	50.0
1907.	27	22	38	43	52	65	72	70	64	50	43	37	48.7
1908.	31	27	39	47	59	**70**	74	69	66	55	44	33	**51.2**
1909.	30	33	37	48	56	69	72	69	63	53	**46**	31	50.6
1910.	32	30	42	**52**	58	65	75	69	63	56	41	28	50.8
1911.	32	27	35	46	62	66	77	69	63	53	42	39	50.9
1912.	21	30	36	47	59	68	**73**	69	64	57	46	38	50.5
M'ns	27.4	28.1	35.5	45.8	57.2	66.4	72.0	69.7	63.3	52.8	41.7	31.7	49.3

Note.—Bold-faced figures indicate highest and lowest monthly means

TEMPERATURE EXTREMES.

Month.	Maximum.	Year.	Day.	Minimum.	Year.	Day.
January	70	1876	1	—13	1882	24
February	64	1880	29	—11	1896	17
March	78	1910	25	— 8	1872	6
April	85	1872	26	11	1874	5
May	97	1880	26	31	1882	3
June	98	1874	29	42	1884	2
July	104	1911	4	46	1874	22
August	97	1881 1900	31 26	47	1880 1885 1894 1908	27 28 22 29
September	102	1881	7	34	1879	26
October	90	1881	1	25	1879	26
November	76	1909	12	— 2	1875	30
December	69	1912	6	—12	1883	23

MISCELLANEOUS DATA FOR 1912.

Barometric Pressure (reduced to sea-level). Mean, 29.99 inches; highest, 30.70 inches, March 6; lowest, 28.91 inches, February 22.

Temperature. Greatest daily range, 34°, March 20; least daily range, 1°, April 14.

Greatest monthly range, 58°, January and February; least monthly range, 41°, August.

Highest mean temperature of three consecutive days, 86°, July 8-10; lowest mean temperature of three consecutive days, 8°, January 12-14.

COMPARATIVE DATA.

MONTHLY AND ANNUAL PRECIPITATION.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1871.	**0.92**	2.63	4.55	3.79	4.34	5.55	3.22	3.08	1.30	5.88	6.42	3.38	45.06
1872.	2.11	2.31	4.05	1.31	3.29	4.84	4.00	**10.68**	6.04	4.85	3.66	3.09	50.23
1873.	5.76	3.21	3.76	3.83	5.16	0.54	3.84	6.21	2.91	5.33	8.34	5.64	54.53
1874.	4.32	3.41	1.60	7.97	3.71	3.94	3.47	6.67	2.05	1.39	2.85	2.14	43.52
1875.	3.68	3.74	5.04	4.92	3.76	7.25	3.93	3.50	3.12	4.99	5.47	**0.75**	50.15
1876.	1.87	4.54	7.19	3.61	2.70	1.72	5.86	1.23	3.84	1.66	**11.03**	3.71	48.96
1877.	3.33	**0.45**	9.79	4.19	3.38	3.21	2.27	4.49	0.60	**8.84**	9.62	1.32	51.49
1878.	**7.60**	4.40	5.91	6.14	1.03	2.28	4.58	7.66	3.47	6.76	8.94	6.76	**65.53**
1879.	2.79	4.35	3.90	6.58	0.97	6.24	3.09	6.71	1.84	0.91	2.97	4.22	44.57
1880.	3.72	4.11	3.25	2.85	1.63	0.75	**6.86**	2.90	2.36	3.15	2.30	3.42	37.30
1881.	7.21	4.89	**9.86**	1.66	4.16	**7.79**	2.96	1.23	2.50	2.84	3.73	3.80	52.63
1882.	3.68	4.77	3.35	2.50	6.05	1.03	3.91	1.46	**10.93**	2.29	1.20	2.65	43.82
1883.	3.59	2.74	2.33	2.83	5.11	2.07	2.73	**0.39**	1.50	6.40	2.08	3.71	35.48
1884.	6.27	5.74	4.86	4.76	3.31	4.01	4.25	5.01	**0.31**	3.17	3.03	4.46	48.98
1885.	5.33	3.00	1.15	3.30	4.26	3.70	1.44	7.64	1.70	5.71	5.78	2.09	45.10
1886.	7.08	**7.04**	3.20	1.70	3.08	1.34	1.81	3.64	2.73	3.27	3.59	3.66	42.14
1887.	4.86	3.69	3.86	2.62	1.67	1.98	3.59	3.05	0.97	2.53	2.22	2.71	33.75
1888.	2.26	2.36	3.32	2.04	5.20	2.69	1.79	6.53	6.77	3.58	4.97	4.38	45.89
1889.	4.11	1.54	1.19	3.07	4.15	2.77	5.80	3.95	3.19	3.31	4.91	1.83	39.82
1890.	2.00	2.29	5.88	2.29	4.48	2.21	1.93	2.70	5.04	5.63	0.97	3.72	39.14
1891.	4.39	3.66	3.94	1.71	1.56	3.06	3.73	3.87	2.29	5.56	2.35	3.58	39.70
1892.	4.62	2.15	3.91	**0.93**	5.15	3.05	2.56	4.87	1.90	2.31	4.45	1.12	37.02
1893.	2.56	6.22	2.80	3.13	5.23	2.20	1.72	6.46	1.59	2.94	1.83	5.16	41.84
1894.	3.01	3.15	**1.01**	3.78	4.12	0.80	3.09	3.03	2.14	5.11	3.10	4.28	36.62
1895.	3.79	1.11	2.72	3.65	2.71	1.73	2.98	3.24	1.53	6.19	8.07	2.45	40.17
1896.	2.25	3.94	5.41	1.56	1.68	2.71	2.90	2.15	6.40	3.15	3.70	1.70	37.55
1897.	3.16	2.12	2.79	3.17	4.00	4.46	4.22	3.95	2.38	**0.41**	6.19	3.92	40.77
1898.	3.50	4.81	1.82	6.39	4.33	1.60	4.42	6.38	1.93	7.17	5.32	2.19	49.86
1899.	4.19	3.03	5.95	1.29	0.81	2.86	2.52	2.52	5.09	2.40	2.51	1.52	34.69
1900.	4.20	6.83	4.60	1.90	5.07	1.85	2.69	2.46	4.62	3.41	4.17	2.25	44.05
1901.	1.56	0.66	6.58	7.43	**6.31**	1.31	5.20	3.25	2.50	3.02	2.41	**8.49**	48.72
1902.	1.65	4.19	5.29	2.87	1.07	1.77	2.88	2.20	2.08	4.36	1.09	4.48	33.93
1903.	3.43	3.90	5.95	4.43	**0.32**	7.19	2.99	3.33	2.43	3.95	1.48	2.57	41.97
1904.	4.80	2.49	2.43	**9.14**	3.38	2.06	1.23	2.19	5.57	2.13	1.70	2.52	39.64
1905.	4.09	1.59	2.25	2.14	1.47	5.23	1.00	3.39	5.10	0.82	1.77	3.23	32.08
1906.	2.96	2.66	5.45	2.15	4.91	2.57	5.38	1.58	2.64	3.88	2.55	3.96	40.69
1907.	2.54	1.88	1.66	3.31	3.12	2.56	1.09	1.10	7.43	2.54	6.02	4.31	37.56
1908.	2.47	2.96	2.97	1.70	3.78	1.08	3.17	4.35	0.68	3.70	**0.74**	2.47	30.07
1909.	3.94	4.71	3.28	3.92	2.33	4.45	**0.97**	3.55	5.15	1.07	4.11	3.19	40.67
1910.	4.25	3.44	1.25	2.22	1.02	4.89	1.15	0.98	2.14	1.14	3.75	2.10	**28.33**
1911.	2.28	2.85	2.95	2.28	0.35	3.67	4.65	4.17	2.95	2.27	4.29	3.07	35.78
1912.	2.87	2.38	4.18	3.07	4.04	**0.27**	5.16	1.94	1.67	1.00	2.61	5.36	34.55
M'ns	3.69	3.38	3.98	3.43	3.29	3.03	3.26	3.80	3.18	3.60	4.01	3.36	42.01

NOTE.—Bold-faced figures indicate greatest and least monthly amounts.

EXTREMES OF PRECIPITATION AND WIND.

Month.	Precipitation.			Wind.			
	24-hour max.	Year.	Day.	Max. vel.	Direction.	Year.	Day.
January	3.25	1881	21–22	64	ne.	1886	9
February	4.45	1886	12	60	e.	1880	3
March	3.04	1877	26–27	72	s.	1877	9
April	3.18	1904	27–28	60	ne.	1891	3
May	3.00	1883	22	48	e.	1893	4
June	5.35	1875	9–10	41	e.	1903	12
July	3.49	1911	28	60	sw.	1879	16
August	4.99	1879	18–19	48	s.	1893	29
September	4.26	1905	3–4	60	n.	1888	26
October	4.92	1895	12–13	54	ne.	1890	19
November	5.43	1876	20–21	65	w.	1875	29
December	2.87	1888	17–18	60	e.	1900	5

MISCELLANEOUS DATA FOR 1912.—Continued.

Precipitation. Longest period without precipitation, 15 days, February 1-15. Longest period with precipitation, 6 days, April 14-19.

Frost. In Spring—Last killing frost occurred on April 9.
In Autumn—First killing frost occurred on October 16.

Snow. Greatest snowfall in 24 hours, 8.4 inches, December 24.
Greatest depth of snow on the ground, 8.4 inches, December 24.
Last snow in spring occurred on April 9; first snow in autumn occurred on November 25.

Thunderstorms. First thunderstorm, February 22; last thunderstorm, November 14.

J. W. SMITH, District Forecaster.

U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

Jan. 7 - 1914

Climatological Summary

of

Boston, Mass.

...1913...

U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, Chief

MONTHLY AND ANNUAL

METEOROLOGICAL SUMMARY

AND COMPARATIVE DATA

OF

BOSTON, MASS.

BY

JOHN W. SMITH
DISTRICT FORECASTER

For the Year Ending December 31, 1913

BOSTON, MASS.
WEATHER BUREAU OFFICE
JANUARY 2, 1914

MARKED FEATURES OF THE WEATHER IN 1913.

Pressure.

A barometric depression of great intensity moved northward from eastern Pennsylvania and the District of Columbia on January 3, accompanied by the lowest pressure readings in this vicinity for nearly 18 years. The lowest ever officially recorded at Boston was 28.61 inches on February 8, 1895. On January 3 the lowest reading was 28.67 inches at 7 p. m. As the center of the storm passed northward at least 150 miles west of Boston, it is probable that the lowest readings since the Weather Bureau was established in 1871, were recorded in western New England and eastern New York State. This is the storm that produced a barometer reading of 28.20 inches on the evening of the 3d in eastern New York State, passing thence down the St. Lawrence Valley and out over the North Atlantic Ocean, with continually increasing intensity. The steamer "Cedric" while in Latitude 46° 5′ N. and Longitude 42° 40′ W., reported a reading of 27.49 inches, with hurricane winds.

Temperature.

In common with most other portions of the Middle Atlantic and the New England states the temperature in the vicinity of Boston in January was the highest on record for the month. Owing to the presence of persistent high barometric pressure over the western Atlantic Ocean, the wind prevailed from the Southwest, which is very seldom the predominating direction in a winter month. The average excess in temperature at Boston over the normal was 12.2°, greater by 3° than the excess in any other abnormally warm month of record. The maximum temperature exceeded 50° on 15 days, and on 18 days the minimum did not go below the freezing point. There was no frost in the ground, new green grass was sprouted, dandelions blossomed, and many other phenomena due to the unseasonable warmth were noted.

Beside the unprecedented excess in January there was a marked excess in March. The average was 7.4° above the normal. During the year there were but three months, February, May and September, with temperature below the normal. In each of these months the deficiency was slight and there were no extended periods of cold weather. On the other hand, there were no sustained periods of intense heat such as occurred in midsummer of 1911 and 1912. November and December were excessive to the extent of 5.3° and 6.2°, respectively.

The year as a whole, was the warmest of record by a considerable margin. It was 1.1° above the average in 1908, the next warmest in 43 years, and was 3.5° above the annual normal for Boston.

Precipitation.

There were no very unusual features as regards the precipitation of the year as a whole. The fact that there was a moderate deficiency makes this the twelfth consecutive year with less than the normal amount of precipitation. The driest month was June, with a fall of 0.64 of an inch. Conditions approaching a drought in June were relieved by generally light but well distributed rains after the second week in July. There were no long continued heavy rains during the year. In October, although there were 22 days with rain, on 9 of them only a trace fell. On two occasions the rate of rainfall was excessive; that is, it exceeded the rate set by the U. S. Weather Bureau as excessive rain. On July 30 there fell 0.91 of an inch in 25 minutes, and on August 27 a somewhat less rapid rate of 0.70 of an inch fell in 20 minutes.

Snowfall was deficient to a marked degree. In February there were 7.7 inches, 3.9 inches less than the normal, while in the other months the amounts were negligible.

Wind.

The heaviest gale of the year accompanied the quick rise in pressure that followed the phenomenal depression in January. On January 4 there was a maximum velocity of 48 miles per hour from the west, with an extreme velocity (fastest mile) of 60 miles from the west, recorded at 11.09 a. m. No damage of serious nature was caused in local waters by this storm, as it was strictly an offshore gale. On March 24 occurred the next heaviest gale, 46 miles, southwest (54 miles extreme rate). Many vessels in Boston Harbor dragged their anchors, one going ashore. The same thing happened to a less extent on March 27th, when there was a rate of 42 miles per hour (extreme rate 48 miles), and on October 20, when there was a rate of 42 miles per hour (extreme rate 52 miles), south.

During all of these storms there was much minor local damage to trees, wires, signs, chimneys, etc., but nothing in the way of general and extensive heavy losses to property.

SEASONAL SNOWFALL.

Years.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Season.
1871-2	0	T.	12.3	3.4	11.3	17.3	0	0	44.3
1872-3	0	0.3	23.7	11.6	8.3	5.2	T.	T.	49.1
1873-4	0	7.5	13.7	20.3	22.7	3.9	28.3	0	**96.4**
1874-5	0	T.	5.7	10.4	0.3	27.3	6.3	0	50.0
1875-6	0	T.	1.1	0.5	3.7	T.	T.	0	**5.3**
1876-7	0	0.3	9.0	17.5	T.	7.9	T.	0	34.7
1877-8	T.	T.	0.8	14.3	12.6	T.	0	0	27.7
1878-9	0	0.3	1.2	18.2	20.7	4.7	T.	0	45.1
1879-0	0	6.0	18.6	3.2	11.4	9.6	0	0	48.8
1880-1	0	0.8	19.2	20.5	9.0	0.1	4.2	0	53.8
1881-2	0	1.5	T.	15.4	17.9	5.6	0	0	40.4
1882-3	0	10.0	6.0	9.6	9.0	4.3	0	0	38.9
1883-4	0	T.	24.4	1.1	12.5	15.0	9.5	0	62.5
1884-5	0.5	4.8	2.3	3.9	3.3	9.5	T.	0	24.3
1885-6	0	0.5	5.5	26.0	4.0	4.5	T.	0	40.5
1886-7	0	0	18.5	16.0	12.0	11.5	15.0	0	73.0
1887-8	0	T.	6.5	13.1	9.6	12.0	T.	T.	41.2
1888-9	0	4.8	0	4.5	7.5	2.2	0	0	19.0
1889-0	0	T.	4.0	8.5	6.3	20.3	0	0	39.1
1890-1	0	T.	14.5	14.8	13.8	16.2	T.	0	59.3
1891-2	T.	0	T.	12.0	11.5	20.0	0	0	43.5
1892-3	0	3.0	2.0	14.6	35.3	4.5	7.9	0	67.3
1893-4	0	0.4	18.5	15.0	21.6	T.	8.5	0	64.0
1894-5	0	6.7	13.5	13.9	8.8	3.8	0.5	0	47.2
1895-6	0	T.	5.2	9.5	9.5	14.5	0.2	0	38.9
1896-7	0	2.2	8.6	18.2	10.9	3.3	T.	0	43.2
1897-8	0	8.1	7.8	16.3	11.5	6.0	2.2	0	51.9
1898-9	0	17.8	7.7	6.1	30.2	9.3	T.	0	71.1
1899-0	T.	0.1	T.	8.3	9.0	7.6	0	T.	25.0
1900-1	0	0.1	0.8	7.8	8.8	T.	0	0	17.5
1901-2	0	0	12.6	11.0	13.0	7.5	T.	0	44.1
1902-3	T.	T.	22.8	4.2	14.7	0.3	T.	0	42.0
1903-4	0	0	10.6	35.7	16.5	8.9	1.4	0	73.1
1904-5	T.	0	12.0	21.3	8.0	3.6	T.	0	44.9
1905-6	0	T.	3.5	6.1	6.1	21.9	T.	0	37.6
1906-7	0	1.1	15.5	16.1	25.5	6.6	3.1	T.	67.9
1907-8	0	0	7.0	4.3	9.3	4.8	0.8	0	26.2
1908-9	0	T.	3.5	11.2	2.3	3.1	0	0	20.1
1909-0	T.	T.	12.3	11.9	12.6	0.2	0	0	37.0
1910-1	0	1.4	8.2	0.7	19.5	3.1	7.7	0	40.6
1911-2	0	0.3	3.7	17.8	0.2	9.1	0.5	0	31.6
1912-3	0	0.3	9.2	0.3	7.7	0.5	1.4	0	19.4
1913	0.4	T.	0.9	......	......	......	......	......	....
Means	T.	1.8	8.7	11.8	11.6	7.5	2.3	T.	44.0

IS SNOWFALL DIMINISHING?

There is a popular belief that the amount of snowfall in this portion of the country is diminishing. Persons of mature years and judgment are often heard to remark that the winters are less severe, that snow does not come as early and is less in amount than in the early years of their recollection. This opinion prevails with many people who are careful observers, but unless absolutely authoritative records verify this belief it cannot be accepted as proven fact.

Unquestionably there has been in this vicinity a marked deficiency in snowfall for the past six and a half winters. There has also been a deficiency in precipitation in general (the total for the year of rain and melted hail, sleet and snow) and an excess in temperature during the same years. Snowfall totals are smaller of course by reason of this excess in temperature, as well as because of the generally light precipitation.

These facts, however, do not justify the statement that the climate has undergone permanent change in any respect. There have been periods of dry years, of warm years, and of years with little snowfall in the past, and there have been periods of the opposite extremes.

Referring to the above table, it will be noted that the winter of 1873-4 shows a total of 96.4 inches, an extraordinary amount for Boston. The next heaviest amount, 73.1 inches, occurred only 10 years ago. In February of that year, 1904, there fell 35.7 inches, the largest amount in any single month at the Boston station in the 43 years of record. On the other hand, the year of least snowfall was 1875-6, only two years after the year of maximum. The 5.3 inches in the winter of 1875-6 was but 27 per cent of the snowfall in 1912-13, the lightest fall in the past decade.

In regard to the early arrival of snow in the fall a generation or two ago as compared with recent years, it may be noted that the average amount up to December 1 in the first 21 years of record was 1.8 inches, and in the last 22 years of record, 1.9 inches. It is worthy of remark that last October, on the 14th, occurred the earliest snow of more than a mere trace of record at Boston in 43 years. The only other October in which there was more than a trace of snow was in 1884, and this occurred on the last day of the month.

It should be remembered that the table above is a summary of the records only of the Boston station of the Weather Bureau, the measurements being taken on open ground in Boston Common. Seasonal snowfall is greater, and snow is apt to come earlier and stay later, in interior and northern portions of New England than along the coast. Therefore, those who spent their early years in inland districts should not expect to see fence-level snowstorms in the vicinity of Boston as frequently as they remember them to have occurred in cities and towns removed from the coast. Then, too, there is a tendency for the memory to retain and magnify the occurrence of unusual or extraordinary seasons, while the normal or subnormal seasons are forgotten.

It is safe to assume, therefore, that nature will, at sometime in the future that cannot be predicted, restore the balance by years of heavy snowfall and heavy general precipitation, and by years with the temperature below the normal, and it will be found that periods of wet years will coincide roughly with periods of cold years. This assumption is in accord with the general agreement among meteorologists that climate has not changed materially within the range of modern history. A 35-year cycle, containing a period of cold, wet years, and a period of warm, dry years, has been generally accepted, but cannot be discussed from the 43 years' records of a single station.

MISCELLANEOUS DATA FOR 1913.

Barometric Pressure (reduced to sea-level). Mean, 30.03 inches; highest, 30.91 inches, March 18; lowest, 28.67 inches, January 3.

Temperature. Greatest daily range, 37°, February 1; least daily range, 2°, October 16.

Greatest monthly range, 63°, March; least monthly range, 36°, July.

Highest mean temperature of three consecutive days, 82°, July 4-6; lowest mean temperature of three consecutive days, 19°, February 5-7; 8-10.

Precipitation. Longest period without precipitation, 14 days, December 9-22.

Longest period with precipitation, 5 days, April 3-7; September 18-22.

Frost. In Spring—Last killing frost occurred on April 10.

In Autumn—First killing frost occurred on November 1.

Snow. Greatest snowfall in 24 hours, 5.4 inches, February 3.

Greatest depth of snow on the ground, 5.4 inches, February 3.

Last snow in spring occurred on April 7; first snow in autumn occurred on October 14.

Thunderstorms. First thunderstorm, February 22; last thunderstorm, December 8.

ANNUAL METEOROLOGICAL SUMMARY.

MONTH.	TEMPERATURE. (Degrees Fahrenheit.)							Relative humidity (per cent).	PRECIPITATION. (In. and hundredths.)				Percentage of sunshine.	WINDS.					Gales (40 miles per hour or over).	NUMBER OF DAYS WITH—										
	MEAN.			EXTREMES.												MAXIMUM (For five min.).											MAX. TEMP.		MIN. TEMP.	
	Maximum.	Minimum.	Monthly.	Maximum.	Date.	Minimum.	Date.		Total.	Maximum in 24 hours.	Date.	Snowfall.		Average hourly velocity.	Prevailing direction.	Velocity.	Direction.	Date.		Clear.	Partly cloudy.	Cloudy.	Precipitation (0.01 in. or over).	Thunderstorms.	Fog, dense.	Snow (0.1 in. or over).	32 degrees or below.	90 degrees or above.	32 degrees or below.	Zero or below.
January	48	31	39	62	6	13	9	71	2.38	1.02	7–8	0.3	48	12.3	sw.	48	w.	4	2	11	6	14	11	0	0	1	2	0	16	0
February	36	19	28	60	20	3	10	60	2.99	0.97	27–28	7.7	68	11.5	w.	39	w.	1	0	16	4	8	7	1	0	4	11	0	25	0
March	52	33	42	73	25	10	8	76	4.81	1.33	26–27	0.5	52	12.8	sw.	46	sw.	24	3	10	6	15	13	2	1	1	1	0	14	0
April	55	41	48	76	25	29	9	76	4.77	1.42	13	1.4	59	10.8	w.	36	w.	19	0	13	3	14	14	1	2	2	0	0	3	0
May	63	48	55	78	5	37	11	69	3.22	1.32	23–24	0	60	9.8	nw.	34	nw.	29	0	10	12	9	8	2	0	0	0	0	0	0
June	77	58	68	91	16	47	10	66	0.64	0.34	7	0	78	10.1	sw.	40	nw.	7	1	17	9	4	5	1	0	0	0	1	0	0
July	83	65	74	96	1	60	26	65	2.69	0.91	30	0	73	10.1	sw.	39	n.	30	0	11	15	5	9	6	0	0	0	5	0	0
August	79	62	71	96	17	56	26	72	2.86	0.92	29–30	0	67	8.8	sw.	37	s.	27	0	10	13	8	8	6	1	0	0	2	0	0
September	70	54	62	86	3	41	15	73	2.51	0.75	4–5	0	60	9.3	sw.	35	s.	22	0	14	7	9	9	2	1	0	0	0	0	0
October	62	51	56	74	28	31	31	85	6.04	1.41	19–20	0.4	26	9.7	e.	42	s.	20	1	5	6	20	13	2	3	1	0	0	1	0
November	54	39	46	71	20	27	27	70	2.15	1.29	29	T.	51	10.7	w.	31	w.	4	0	13	5	12	6	0	0	0	0	0	4	0
December	45	31	38	56	7	18	19	69	3.05	1.19	7–8	0.9	49	11.1	w.	40	w.	8	1	10	9	12	6	1	0	2	0	0	16	0
Total	60.3	44.3	52.3	96	Aug. 17	3	Feb. 10	71.0	38.11	1.42	Apr. 13	11.2	58	10.6	sw.	48	w.	Jan 4	8	140	95	130	109	24	8	11	14	8	79	0

COMPARATIVE DATA.

Monthly and Annual Precipitation.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1818..	2.64	3.49	4.05	6.15	5.96	3.47	4.08	0.46	7.81	2.11	1.91	0.86	42.99
1819..	0.70	2.27	6.21	3.74	3.06	3.56	2.02	4.38	5.29	1.40	1.22	1.63	35.48
1820..	3.12	4.25	4.90	0.45	5.08	3.42	4.19	5.15	2.43	5.39	3.00	2.80	44.18
1821..	1.41	4.42	2.53	4.90	4.84	2.79	2.35	1.58	4.73	2.29	3.12	1.93	36.89
1822..	1.29	2.34	2.02	2.99	0.78	3.54	4.32	1.20	2.15	2.53	2.58	1.46	**27.20**
1823..	3.00	4.57	7.72	2.21	6.40	0.93	5.74	1.98	1.95	3.95	1.92	6.93	47.30
1824 .	3.95	5.99	1.81	4.72	1.43	1.60	0.88	3.68	6.43	1.01	1.72	2.80	36.02
1825..	2.79	3.43	4.70	0.37	1.36	4.77	1.24	5.62	2.66	3.21	0.81	4.38	35.34
1826..	2.55	1.48	3.81	1.50	**0.25**	3.85	2.90	**12.10**	3.03	3.80	2.31	3.56	41.14
1827..	3.92	2.97	2.51	4.75	5.34	2.56	2.59	4.88	4.81	5.28	5.71	3.59	48.91
1828..	2.15	2.79	1.84	2.00	4.67	1.59	4.58	**0.37**	3.82	2.79	5.55	**0.26**	32.41
1829..	4.93	5.62	4.30	3.45	2.71	1.64	6.98	4.95	2.62	1.65	5.74	2.26	46.85
1830..	2.36	1.63	3.51	1.21	3.03	3.46	4.90	2.64	5.65	2.38	5.32	5.96	42.95
1831..	4.44	3.68	3.07	6.97	3.65	4.32	5.53	5.57	3.83	4.42	3.20	2.93	51.61
1832..	4.47	3.74	2.65	5.56	7.27	0.50	3.41	6.14	2.07	2.46	3.57	4.85	46.69
1833..	2.96	2.53	2.71	2.30	1.03	3.23	2.01	0.82	2.88	6.00	5.53	5.86	37.86
1834..	1.39	1.13	**0.96**	2.93	6.33	3.09	7.71	2.47	3.71	4.62	2.90	2.36	39.60
1835..	3.25	1.37	4.27	4.54	2.07	2.74	9.07	2.89	1.31	1.87	2.08	2.40	37.86
1836..	**8.84**	3.57	2.90	1.58	1.85	4.33	2.12	1.53	0.54	4.04	5.43	4.13	40.86
1837..	4.10	4.14	3.02	3.07	5.79	2.98	1.80	1.67	0.56	1.58	2.35	2.46	33.52
1838..	3.07	2.77	3.09	2.62	3.32	2.55	1.20	4.26	9.87	5.02	3.95	0.80	42.52
1839..	0.98	3.11	1.18	7.73	4.27	2.25	3.32	5.70	2.00	2.50	1.71	6.35	41.10
1840..	3.12	2.57	4.55	4.60	2.23	2.78	2.93	4.00	2.12	4.48	**11.63**	4.15	49.16
1841..	6.00	1.60	3.50	8.82	1.90	1.95	2.10	4.20	2.86	3.80	4.55	5.77	47.05
1842..	0.80	3.20	3.35	3.50	2.90	5.30	1.82	4.44	3.25	0.80	4.45	5.30	39.11
1843..	2.20	6.08	6.17	3.88	1.60	4.61	2.15	6.88	0.98	4.82	3.40	3.92	46.69
1844..	3.68	2.42	6.00	**0.20**	2.72	1.40	2.17	2.62	3.53	5.80	3.15	3.85	37.54
1845..	4.58	4.25	3.83	1.23	2.82	2.05	3.28	1.82	2.23	4.00	10.25	5.98	46.32
1846..	3.12	2.95	2.73	1.23	2.02	2.25	2.51	1.80	1.30	1.35	4.17	4.52	29.95
1847..	3.28	4.70	4.77	2.20	2.03	4.09	2.65	6.45	6.64	1.05	5.12	3.95	46.93
1848..	2.30	3.90	4.05	1.40	6.30	1.73	1.35	3.10	3.55	5.10	2.25	5.95	40.98
1849..	**0.35**	1.15	7.35	0.90	3.10	1.45	**0.85**	6.25	1.25	8.10	5.50	4.05	40.30
1850..	4.59	2.52	5.32	4.82	6.63	2.77	2.70	5.30	7.15	2.10	3.32	6.76	53.98
1851..	1.30	4.20	3.88	9.37	3.31	1.80	3.09	1.27	3.50	4.43	5.51	2.65	44.31
1852..	4.85	2.85	4.45	10.18	1.95	2.35	3.28	7.63	1.65	2.19	3.47	3.09	47.94
1853..	2.44	5.30	2.27	3.78	5.63	0.30	3.64	9.40	3.80	3.92	4.43	3.95	48.86
1854..	2.91	4.87	2.84	6.63	4.33	2.47	3.70	0.58	3.86	2.08	6.80	4.64	45.71
1855..	7.22	4.67	1.18	4.28	1.20	3.09	4.15	1.46	1.13	4.61	5.27	5.93	44.19
1856..	5.32	0.80	1.33	4.37	7.10	2.90	4.02	11.11	4.90	2.70	3.33	4.28	52.16
1857..	5.36	2.45	3.09	**10.83**	5.57	2.02	5.53	1.18	2.56	4.50	2.52	5.26	56.87
1858..	3.28	2.30	2.18	5.18	3.89	**8.09**	4.56	7.03	5.02	3.03	3.38	4.73	52.67
1859..	5.93	4.05	7.64	3.36	3.63	7.89	1.58	4.72	4.40	3.28	3.75	6.47	56.70
1860..	1.89	3.85	2.19	1.73	2.35	8.01	5.90	4.30	7.35	2.66	5.37	5.86	51.46
1861..	6.04	3.57	7.48	5.89	2.97	3.64	2.76	6.04	1.77	2.66	4.90	2.35	50.07
1862..	8.30	3.29	4.70	1.97	2.70	6.78	7.33	4.20	5.61	4.85	8.32	3.01	61.06
1863..	4.51	4.54	6.42	9.08	2.82	2.56	**12.38**	5.64	3.12	3.83	6.48	6.34	**67.72**
1864..	3.87	1.43	**11.75**	4.72	3.31	1.47	1.90	4.17	2.60	4.80	4.00	5.28	49.30
1865..	4.47	5.08	4.83	2.57	6.90	2.83	4.26	1.42	0.62	6.21	4.46	4.18	47.83
1866..	3.73	5.28	4.70	2.03	5.04	3.41	5.42	3.87	5.90	2.72	3.74	4.86	50.70
1867..	6.06	6.55	6.12	2.52	4.11	2.74	4.76	10.78	0.44	6.76	2.32	2.48	55.64
1868..	6.09	1.88	5.04	6.94	**10.38**	3.79	1.10	7.53	**11.95**	1.78	5.31	2.32	64.11
1869..	4.03	**9.98**	8.74	2.05	6.88	4.44	3.30	2.19	5.18	6.71	3.74	**9.04**	66.28
1870..	8.16	7.03	4.88	8.42	2.58	7.59	4.01	1.57	0.67	6.80	4.40	3.62	59.73
1871..	0.92	2.63	4.55	3.79	4.34	5.55	3.22	3.08	1.30	5.88	6.42	3.38	45.06
1872..	2.11	2.31	4.05	1.31	3.29	4.84	4.00	10.68	6.04	4.85	3.66	3.09	50.42
1873..	5.76	3.21	3.76	3.83	5.16	0.54	3.84	6.21	2.91	5.33	8.34	5.64	54.53
1874 .	4.32	3.41	1.60	7.97	3.71	3.94	3.47	6.67	2.05	1.39	2.85	2.14	43.52
1875..	3.68	3.74	5.04	4.92	3.76	7.25	3.93	3.50	3.12	4.99	5.47	0.75	50.15
1876..	1.87	4.54	7.19	3.61	2.70	1.72	5.86	1.23	3.84	1.66	11.03	3.71	48.96
1877..	3.33	**0.45**	9.79	4.19	3.38	3.21	2.27	4.49	0.60	**8.84**	9.62	1.32	51.49
1878..	7.60	4.40	5.91	6.14	1.03	2.28	4.58	7.66	3.47	6.76	8.94	6.76	65.53
1879..	2.79	4.35	3.90	6.58	0.97	6.24	3.09	6.71	1.84	0.91	2.97	4.22	45.57
1880..	3.72	4.11	3.25	2.85	1.63	0.75	6.86	2.90	2.36	3.15	2.30	3.42	37.30
1881..	7.21	4.89	9.86	1.66	4.16	7.79	2.96	1.23	2.50	2.84	3.73	3.80	52.63
1882..	3.68	4.77	3.35	2.50	6.05	1.03	3.91	1.46	10.93	2.29	1.20	2.65	43.82
1883..	3.59	2.74	2.33	2.83	5.11	2.07	2.73	0.39	1.50	6.40	2.08	3.71	35.48
1884..	6.27	5.74	4.86	4.76	3.31	4.01	4.25	5.01	**0.31**	3.17	3.03	4.46	49.18
1885..	5.33	3.00	1.15	3.30	4.26	3.70	1.44	7.64	1.70	5.71	5.78	2.09	45.10
1886..	7.08	7.04	3.20	1.70	3.08	1.34	1.81	3.64	2.73	3.27	3.59	3.66	42.14
1887..	4.86	3.69	3.86	2.62	1.67	1.98	3.59	3.05	0.97	2.53	2.22	2.71	33.75
1888..	2.26	2.36	3.32	2.04	5.20	2.69	1.79	6.53	6.77	3.58	4.97	4.38	45.89
1889..	4.11	1.54	1.19	3.07	4.15	2.77	5.80	3.95	3.19	3.31	4.91	1.83	39.82
1890..	2.00	2.29	5.88	2.29	4.48	2.21	1.93	2.70	5.04	5.63	0.97	3.72	39.14
1891..	4.39	3.66	3.94	1.71	1.56	3.06	3.73	3.87	2.29	5.56	2.35	3.58	39.70
1892..	4.62	2.15	3.91	0.93	5.15	3.05	2.56	4.87	1.90	2.31	4.45	1.12	37.02
1893..	2.56	6.22	2.80	3.13	5.23	2.20	1.72	6.46	1.59	2.94	1.83	5.16	41.84

COMPARATIVE DATA.

Monthly and Annual Precipitation—Continued.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1894..	3.01	3.15	1.01	3.78	4.12	0.80	3.09	3.03	2.14	5.11	3.10	4.28	36.62
1895..	3.79	1.11	2.72	3.65	2.71	1.73	2.98	3.24	1.53	6.19	8.07	2.45	40.17
1896..	2.25	3.94	5.41	1.56	1.68	2.71	2.90	2.15	6.40	3.15	3.70	1.70	37.55
1897..	3.16	2.12	2.79	3.17	4.00	4.46	4.22	3.95	2.38	**0.41**	6.19	3.92	40.77
1898..	3.50	4.81	1.82	6.39	4.33	1.60	4.42	6.38	1.93	7.17	5.32	2.19	49.86
1899..	4.19	3.03	5.95	1.29	0.81	2.86	2.52	2.52	5.09	2.40	2.51	1.52	34.69
1900..	4.20	6.83	4.60	1.90	5.07	1.85	2.69	2.46	4.62	3.41	4.17	2.25	44.05
1901..	1.56	0.66	6.58	7.43	6.31	1.31	5.20	3.25	2.50	3.02	2.41	8.49	48.72
1902..	1.65	4.19	5.29	2.87	1.07	1.77	2.88	2.20	2.08	4.36	1.09	4.48	33.93
1903..	3.43	3.90	5.95	4.43	0.32	7.19	2.99	3.33	2.43	3.95	1.48	2.57	41.97
1904..	4.80	2.49	2.43	9.14	3.38	2.06	1.23	2.19	5.57	2.13	1.70	2.52	39.64
1905..	4.09	1.59	2.25	2.14	1.47	5.23	1.00	3.39	5.10	0.82	1.77	3.23	32.08
1906..	2.96	2.66	5.45	2.15	4.91	2.57	5.38	1.58	2.64	3.88	2.55	3.96	40.69
1907..	2.54	1.88	1.66	3.31	3.12	2.56	1.09	1.10	7.43	2.54	6.02	4.31	37.56
1908 .	2.47	2.96	2.97	1.70	3.78	1.08	3.17	4.35	0.68	3.70	**0.74**	2.47	30.07
1909..	3.94	4.71	3.28	3.92	2.33	4.45	0.97	3.55	5.15	1.07	4.11	3.19	40.67
1910..	4.25	3.44	1.25	2.22	1.02	4.89	1.15	0.98	2.14	1.14	3.75	2.10	28.33
1911..	2.28	2.85	2.95	2.28	0.35	3.67	4.65	4.17	2.95	2.27	4.29	3.07	35.78
1912..	2.87	2.38	4.18	3.07	4.04	**0.27**	5.16	1.94	1.67	1.00	2.11	5.36	34.55
1913..	2.38	2.99	4.81	4.77	3.22	0.64	2.69	2.86	2.51	6.04	2.15	3.05	38.11
M'ns	*3.66	3.38	4.00	3.46	3.29	2.97	3.26	3.80	3.16	3.65	3.96	3.74	41.92
M'ns	†3.70	3.50	4.10	3.80	3.57	3.12	3.48	4.02	3.41	3.64	4.08	3.36	44.20

NOTE.—Bold-faced figures indicate greatest and least monthly amounts.

* Computed from the Weather Bureau records of 43 years.

† Computed from the 96 year record, the data of years prior to 1871 being furnished by Mr. I. Y. Chubbuck of Roxbury.

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EXTREMES OF PRECIPITATION AND WIND.

Month.	Precipitation.			Wind.			
	24-hour max.	Year.	Day.	Max. vel.	Direction.	Year.	Day.
January	3.25	1881	21–22	64	ne.	1886	9
February	4.45	1886	12	60	e.	1880	3
March	3.04	1877	26–27	72	s.	1877	9
April	3.18	1904	27–28	60	ne.	1891	3
May	3.00	1883	22	48	e.	1893	4
June	5.35	1875	9–10	41	e.	1903	12
July	3.49	1911	28	60	sw.	1879	16
August	4.99	1879	18–19	48	s.	1893	29
September	4.26	1905	3–4	60	n.	1888	26
October	4.92	1895	12–13	54	ne.	1890	19
November	5.43	1876	20–21	65	w.	1875	29
December	2.87	1888	17–18	60	e.	1900	5

COMPARATIVE DATA.

Monthly and Annual Mean Temperatures.

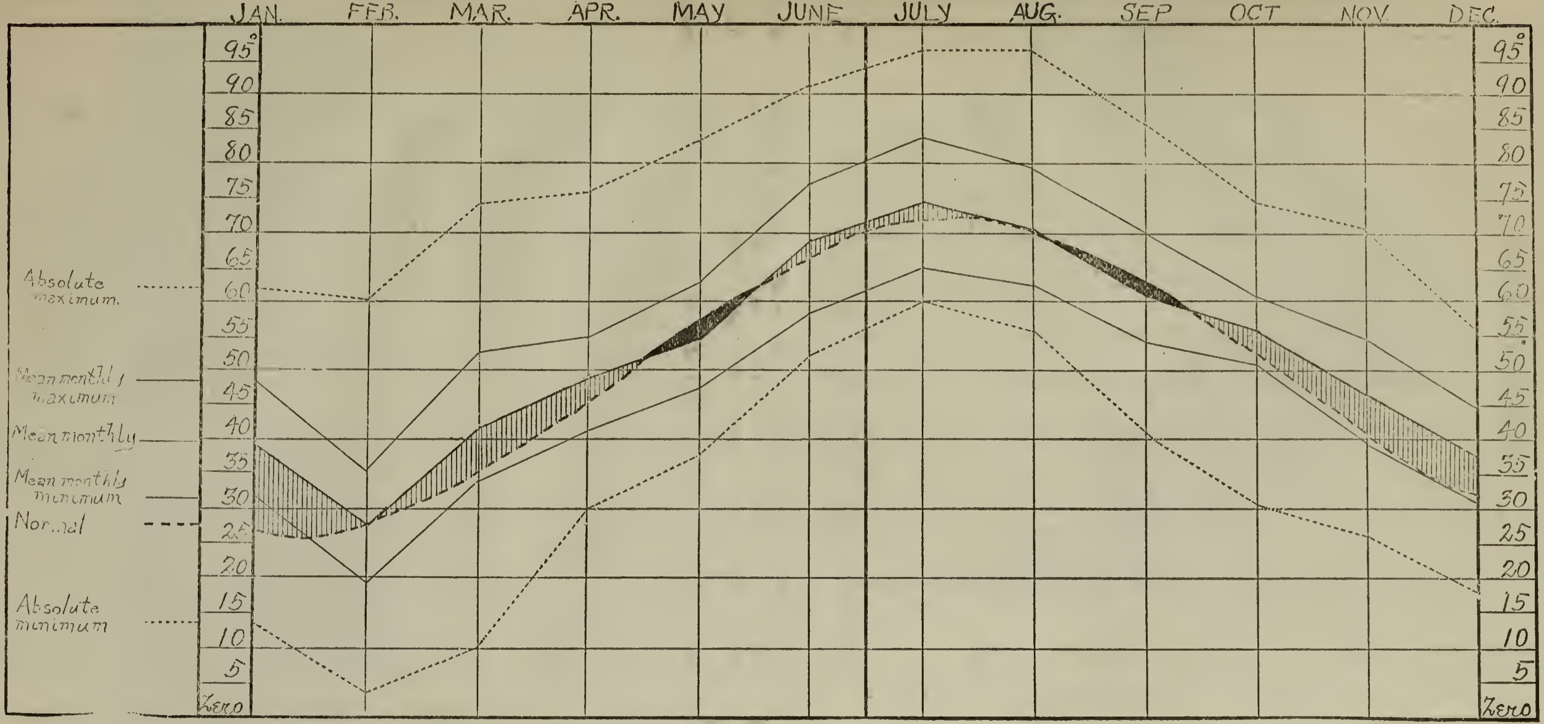
Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1871.	26	29	42	47	58	66	71	72	**59**	54	37	28	48.9
1872.	27	28	**26**	47	59	69	76	73	64	52	41	23	48.8
1873.	25	26	34	45	57	67	73	70	63	54	**33**	32	48.2
1874.	30	27	34	**39**	55	66	73	68	64	53	42	31	48.6
1875.	**20**	22	31	43	58	67	72	71	61	50	35	30	**46.6**
1876.	31	27	33	44	55	69	74	70	60	**48**	41	**22**	47.9
1877.	25	**34**	35	44	55	67	71	72	65	52	44	36	50.1
1878.	28	31	40	48	56	65	74	70	64	56	41	30	50.2
1879.	24	25	34	42	60	65	71	69	62	**58**	39	32	48.4
1880.	35	32	33	46	**64**	69	72	71	65	52	38	27	50.3
1881.	22	28	37	44	57	62	70	71	**68**	54	44	39	49.6
1882.	26	30	36	43	**51**	67	73	72	64	55	39	30	48.8
1883.	24	29	31	45	56	**70**	72	68	60	**48**	43	29	47.9
1884.	24	31	34	44	55	67	69	70	67	53	41	34	49.0
1885.	27	**21**	28	47	53	67	72	68	60	52	44	33	47.6
1886.	26	27	33	49	57	63	71	68	63	52	43	28	48.4
1887.	25	29	32	44	60	65	75	68	60	52	42	32	48.5
1888.	**20**	28	32	43	53	67	69	70	60	**48**	44	35	47.3
1889.	36	26	38	48	60	69	69	67	63	**48**	45	38	50.7
1890.	32	33	35	46	57	64	71	69	63	51	42	26	49.1
1891.	31	32	34	48	56	65	69	70	67	52	41	**40**	50.4
1892.	28	28	33	48	56	**70**	73	70	62	53	41	30	49.4
1893.	21	27	34	44	56	65	71	70	60	55	42	30	47.9
1894.	30	27	42	47	58	69	74	68	65	54	38	32	50.3
1895.	29	25	35	46	60	67	69	71	66	50	45	36	49.8
1896.	25	29	32	47	60	66	72	71	62	50	**46**	30	49.2
1897.	28	31	37	49	58	62	72	70	63	54	41	34	49.9
1898.	29	33	43	44	56	66	72	**73**	66	54	42	32	50.8
1899.	29	27	34	48	58	**70**	73	69	62	54	42	36	50.2
1900.	30	29	34	49	55	69	74	71	65	57	45	33	50.8
1901.	28	24	36	44	54	68	73	71	65	54	37	32	49.0
1902.	27	29	43	48	58	64	**68**	68	63	54	**46**	28	49.6
1903.	27	31	**44**	48	58	**60**	71	**65**	64	54	40	29	49.5
1904.	22	23	35	45	61	64	71	69	62	51	38	26	47.1
1905.	25	23	37	47	58	65	73	69	62	54	45	35	49.1
1906.	36	30	32	47	58	66	70	72	65	52	42	29	50.0
1907.	27	22	38	43	52	65	72	70	64	50	43	37	48.7
1908.	31	27	39	47	59	**70**	74	69	66	55	44	33	**51.2**
1909.	30	33	37	48	56	69	72	69	63	53	**46**	31	50.5
1910.	32	30	42	**52**	58	65	75	69	63	56	41	28	50.8
1911.	32	27	35	46	62	66	**77**	69	63	53	42	39	50.9
1912.	21	28	36	47	59	68	73	69	64	57	**46**	38	50.5
1913.	**39**	28	42	48	55	68	74	71	62	56	**46**	38	52.3
M'ns	27.7	28.0	35.6	46.0	57.4	66.5	72.1	69.8	63.2	52.9	41.8	31.9	49.4

NOTE.—Bold-faced figures indicate highest and lowest monthly means.

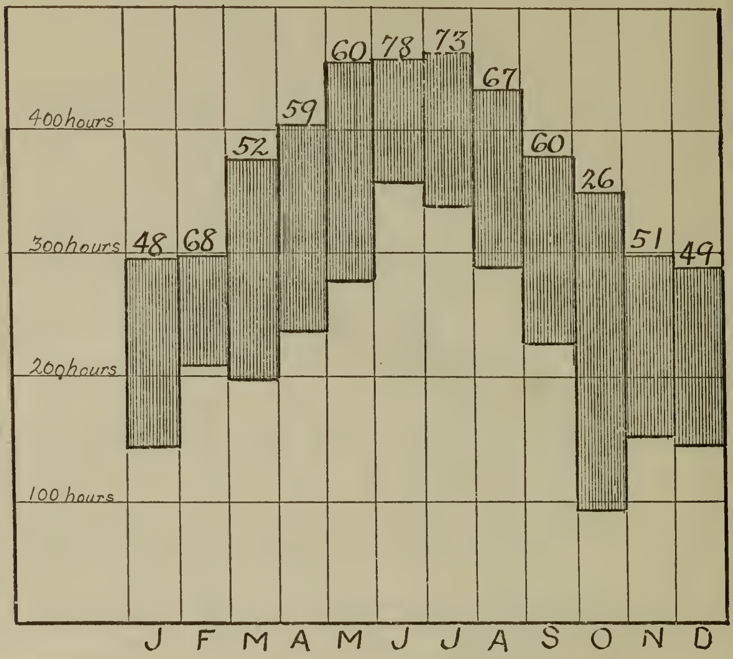
TEMPERATURE EXTREMES.

Month.	Maximum.	Year.	Day.	Minimum.	Year.	Day.
January	70	1876	1	—13	1882	24
February	64	1880	29	—11	1896	17
March	78	1910	25	— 8	1872	6
April	85	1872	26	11	1874	5
May	97	1880	26	31	1882	3
June	98	1874	29	42	1884	2
July	104	1911	4	46	1874	22
August	97	1881 1900	31 26	47	1880 1885 1894 1908	27 28 22 29
September	102	1881	7	34	1879	26
October	90	1881	1	25	1879	26
November	76	1909	12	— 2	1875	30
December	69	1912	6	—12	1883	23

Temperature Chart.—Partly shaded area shows excess, black area shows deficiency from normal.



SUNSHINE CHART.

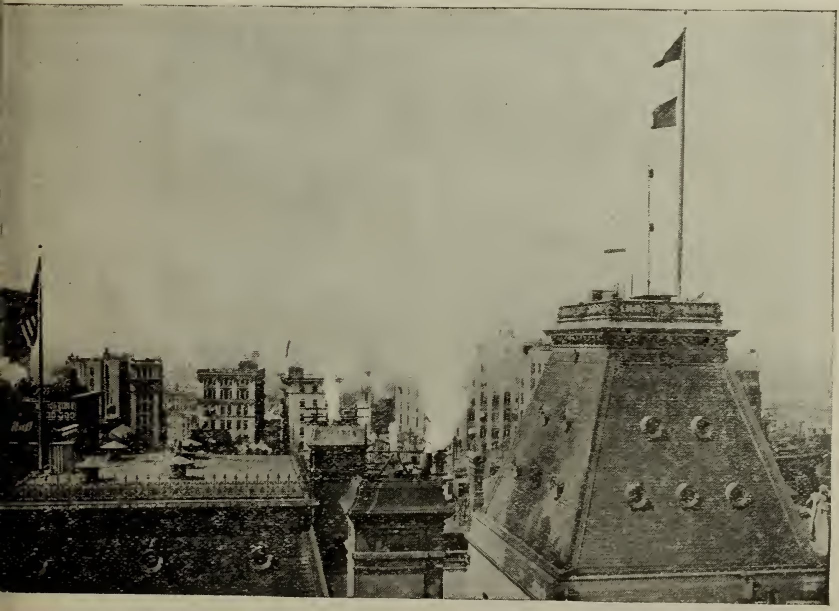


The tops of the columns indicate the total possible number of hours of sunshine in each month. Figures above the columns are monthly percentages.

The shaded areas show the number of daylight hours of obscured sunlight in each month.

The unshaded areas show the number of hours of actual sunshine in each month.

The accompanying cut shows the exposure of the recording instruments of the Weather Bureau at Boston, and the method of displaying windstorm warnings. The pennant and square flag indicate warning of high northeast winds. On the slender pole directly at the left of the flag pole are the electric lanterns for night warnings. On this tower are exposed the wind vane, the sunlight recorder and the anemometer. The wind cups of the anemometer are faintly visible at the left of and slightly below the lower lantern, and the wind vane is near by. These three instruments register electrically and automatically in the office below. In the center of the flat roof at the left of the picture are the rain gages, a standard stick gage and a recording weighing gage connected electrically with a registering device in the office. Immediately to the right of the large chimney in the foreground shows the thermometer shelter, containing maximum and minimum thermometers, wet and dry thermometers, or whirling psychrometer, and the exposed part of a tele-thermograph, which registers electrically, in the office, a continuous record of the rise and fall of the temperature. The thermometers are 115 feet above the street level, the rain gage 154 feet, and the anemometer 188 feet. Barometers are not exposed out of doors, as equally reliable readings are obtained in doors. For a city exposure, the location of all of the instruments is excellent for obtaining true readings, unaffected by artificial conditions.



WEATHER BUREAU ROOF AND TOWER, BOSTON, MASS.

1913	S	M	T	W	T	F	S	1913	S	M	T	W	T	F	S	1913	S	M	T	W	T	F	S	1913	S	M	T	W	T	F	S
Jan.	-	-	-	1	2	3	4	April	-	-	1	2	3	4	5	July	-	-	1	2	3	4	5	Oct.	-	-	-	1	2	3	4
	5	6	7	8	9	10	11		6	7	8	9	10	11	12		6	7	8	9	10	11	12		5	6	7	8	9	10	11
	12	13	14	15	16	17	18		13	14	15	16	17	18	19		13	14	15	16	17	18	19		12	13	14	15	16	17	18
	19	20	21	22	23	24	25		20	21	22	23	24	25	26		20	21	22	23	24	25	26		19	20	21	22	23	24	25
	26	27	28	29	30	31	-		27	28	29	30	-	-	-		27	28	29	30	31	-	-		26	27	28	29	30	31	-
	-	-	-	-	-	-	-		-	-	-	-	-	-	-		-	-	-	-	-	-	-		-	-	-	-	-	-	-
Feb.	-	-	-	-	-	-	1	May	-	-	-	-	1	2	3	Aug.	-	-	-	-	-	1	2	Nov.	-	-	-	-	-	-	1
	2	3	4	5	6	7	8		4	5	6	7	8	9	10		3	4	5	6	7	8	9		2	3	4	5	6	7	8
	9	10	11	12	13	14	15		11	12	13	14	15	16	17		10	11	12	13	14	15	16		9	10	11	12	13	14	15
	16	17	18	19	20	21	22		18	19	20	21	22	23	24		17	18	19	20	21	22	23		16	17	18	19	20	21	22
	23	24	25	26	27	28	-		25	26	27	28	29	30	31		24	25	26	27	28	29	30		23	24	25	26	27	28	29
	-	-	-	-	-	-	-		-	-	-	-	-	-	-		31	-	-	-	-	-	-		30	-	-	-	-	-	-
Mar.	-	-	-	-	-	-	1	June	1	2	3	4	5	6	7	Sept.	-	1	2	3	4	5	6	Dec.	-	1	2	3	4	5	6
	2	3	4	5	6	7	8		8	9	10	11	12	13	14		7	8	9	10	11	12	13		7	8	9	10	11	12	13
	9	10	11	12	13	14	15		15	16	17	18	19	20	21		14	15	16	17	18	19	20		14	15	16	17	18	19	20
	16	17	18	19	20	21	22		22	23	24	25	26	27	28		21	22	23	24	25	26	27		21	22	23	24	25	26	27
	23	24	25	26	27	28	29		29	30	-	-	-	-	-		28	29	30	-	-	-	-		28	29	30	31	-	-	-
	30	31	-	-	-	-	-		-	-	-	-	-	-	-		-	-	-	-	-	-	-		-	-	-	-	-	-	-

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, Chief

Jan. 7. 1915

MONTHLY AND ANNUAL

METEOROLOGICAL SUMMARY AND COMPARATIVE DATA

—OF—

BOSTON, MASS.

BY
JOHN W. SMITH
DISTRICT FORECASTER

For the Year Ending December 31, 1914

BOSTON, MASS.
WEATHER BUREAU OFFICE
JANUARY 2, 1915

1914

MARKED FEATURES OF THE WEATHER IN 1914.

TEMPERATURE.

The average temperature for the year 1914, considered as a whole, was not far from normal, the average daily excess being only 0.9° The mean temperatures for the various months were near or slightly above normal, except in February, when there was an average deficiency of 3.7°, and in July, which was 2.7° below normal.

There are several features of interest in regard to individual days or short periods of extreme high or low temperatures. In January a cold wave coming on the night of the 12th and continuing through the 13th and 14th, caused more actual discomfort, perhaps, than any cold wave within the past 44 years. There have been lower temperatures in other years, but seldom with wind of gale velocity, or without a substantial rise to above zero at midday. On the 13th of January, 1914, however, the highest temperature attained in the daylight hours was zero at 2 p. m., while high west and northwest winds prevailed. The greatest velocity was at the beginning of the cold wave, 51 miles per hour, from the northwest, on the afternoon of the 12th.

The minimum temperature at 10 p. m. of the 13th, —8.7°, was the lowest that had been recorded for 18 years and the wind velocity the highest for nearly 7 years.

In February there was another period of even lower temperature. The lowest reached was —10.6° at 5 a. m. of the 12th. There was a maximum wind velocity of 33 miles from the northwest. In the past 30 years there has been but one lower reading, which was —11.1° on February 17, 1896.

In regard to the opposite extreme of temperature it is a rather peculiar fact that the absolute maximum for the year was in May, 94.5°, on the 27th. In April, on the 19th, occurred the highest of record for that month, 87.0°. Another peculiar fact, although one of no special significance, is that the absolute maximum readings for the warm months were as follows: May, 94.6°; September, 94.5°; June, 94.1°; August, 90.5°; July, 90.0°. The order is just the reverse of what one might reasonably expect, judging from the normal temperatures of those months.

The fall and early winter showed no temperature features of interest, except that in September occurred the absolute lowest of record for that month, 33.5°, on the 29th.

PRESSURE.

In the summary for 1913 mention was made of a phenomenal barometric depression that passed northward over western New England and eastern New York on January 3, causing the lowest pressure on record in those districts, and the lowest in Boston for 18 years. In 1914, on March 1, a new record was established for low pressure, the barometer falling to a point .12 of an inch lower than in 1913, and .08 lower than the record for Boston. The sea-level reading was 28.53 inches at 8.40 p. m. This storm produced a reading of 28.25 inches at New Haven, Conn., at 7 a. m. of the 1st, and caused a wind velocity of 86 miles per hour at Nantucket, Mass. There were no other phenomena worthy of note in regard to barometric pressure.

PRECIPITATION.

The accumulated deficiency from the normal for the entire year was 9.07 inches. Copious rains in March, April and the first half of May, gave an excellent start to the growing season, and the accumulated precipitation was generally above normal until the last week in July.

September, with a fall of .21 of an inch, was the driest month of record for the 44 years since the Weather Bureau was established. The private record, extending back to January, 1818, shows but one drier month, April, 1844, when the total precipitation was .20 of an inch. Last June there was a period of 23 consecutive days with no more than a trace of precipitation, an absolute drought of greater duration than any time in 44 years, except a 25-day period in 1874, from August 23 to September 16, inclusive.

The first 15 days of October, 1914, were also without rain, and the month deficient by 2.32 inches, while November was deficient by 1.38 inches. The total fall for the three months was but 4.47 inches.

WIND.

The windiest month of the year was January, with a total mileage of 9,628, an average velocity of 12.9 miles per hour, which was the greatest for 6 years. There were 4 gales (40 miles per hour or over) that month. On the 12th the wind attained a velocity of 51 miles, from the west, the highest recorded in the last 7 years.

On March 1, during the phenomenal depression that prevailed in this vicinity, there was an easterly gale which reached a velocity of 50 miles per hour at 7.02 p. m.

No winds of gale velocity occurred from May to October, inclusive. In November, on the 19th, the wind reached a velocity of 43 miles, from the northeast. In combination with a flood tide it caused the highest water since the "Christmas storm" of 1909, and did some damage along the water front by flooding cellars, inundating streets and damaging sea-walls.

MISCELLANEOUS DATA FOR 1914.

Barometric Pressure (reduced to sea-level). Mean, 30.02 inches; highest, 30.76 inches, November 29; lowest, 28.53 inches, March 1.

Temperature. Greatest daily range, 36°, June 10; least daily range, 2°, May 13.
Greatest monthly range, 72°, January; least monthly range, 35°, August.
Highest mean temperature of three consecutive days, 80°, June 24-26; lowest mean temperature of three consecutive days, 14°, February 11-13.

Precipitation. Longest period without precipitation, 23 days, September 5-27.
Longest period with precipitation, 5 days, August 17-21.

Frost. In Spring—Last killing frost occurred on April 14.
In Autumn—First killing frost occurred on October 28.

Snow. Greatest snowfall in 24 hours, 8.4 inches, February 14.
Greatest depth of snow on the ground, 14.6 inches, February 19.
Last snow in spring occurred on April 17; first snow in autumn occurred on October 27.

Thunderstorms. First thunderstorm, March 18; last thunderstorm, October 19.

SEASONAL SNOWFALL.

Years.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Season
1871-2	0	T.	12.3	3.4	11.3	17.3	0	0	44.3
1872-3	0	0.3	23.7	11.6	8.3	5.2	T.	T.	49.1
1873-4	0	7.5	13.7	20.3	22.7	3.9	28.3	0	96.4
1874-5	0	T.	5.7	10.4	0.3	27.3	6.3	0	50.0
1875-6	0	T.	1.1	0.5	3.7	T.	T.	0	5.3
1876-7	0	0.3	9.0	17.5	T.	7.9	T.	0	34.7
1877-8	T.	T.	0.8	14.3	12.6	T.	0	0	27.7
1878-9	0	0.3	1.2	18.2	20.7	4.7	T.	0	45.1
1879-0	0	6.0	18.6	3.2	11.4	9.6	0	0	48.8
1880-1	0	0.8	19.2	20.5	9.0	0.1	4.2	0	53.8
1881-2	0	1.5	T.	15.4	17.9	5.6	0	0	40.4
1882-3	0	10.0	6.0	9.6	9.0	4.3	0	0	38.9
1883-4	0	T.	24.4	1.1	12.5	15.0	9.5	0	62.5
1884-5	0.5	4.8	2.3	3.9	3.3	9.5	T.	0	24.3
1885-6	0	0.5	5.5	26.0	4.0	4.5	T.	0	40.5
1886-7	0	0	18.5	16.0	12.0	11.5	15.0	0	73.0
1887-8	0	T.	6.5	13.1	9.6	12.0	T.	T.	41.2
1888-9	0	4.8	0	4.5	7.5	2.2	0	0	19.0
1889-0	0	T.	4.0	8.5	6.3	20.3	0	0	39.1
1890-1	0	T.	14.5	14.8	13.8	16.2	T.	0	59.3
1891-2	T.	0	T.	12.0	11.5	20.0	0	0	43.5
1892-3	0	3.0	2.0	14.6	35.3	4.5	7.9	0	67.3
1893-4	0	0.4	18.5	15.0	21.6	T.	8.5	0	64.0
1894-5	0	6.7	13.5	13.9	8.8	3.8	0.5	0	47.2
1895-6	0	T.	5.2	9.5	9.5	14.5	0.2	0	38.9
1896-7	0	2.2	8.6	18.2	10.9	3.3	T.	0	43.2
1897-8	0	8.1	7.8	16.3	11.5	6.0	2.2	0	51.9
1898-9	0	17.8	7.7	6.1	30.2	9.3	T.	0	71.1
1899-0	T.	0.1	T.	8.3	9.0	7.6	0	T.	25.0
1900-1	0	0.1	0.8	7.8	8.8	T.	0	0	17.5
1901-2	0	0	12.6	11.0	13.0	7.5	T.	0	44.1
1902-3	T.	T.	22.8	4.2	14.7	0.3	T.	0	42.0
1903-4	0	0	10.6	35.7	16.5	8.9	1.4	0	73.1
1904-5	T.	0	12.0	21.3	8.0	3.6	T.	0	44.9
1905-6	0	T.	3.5	6.1	6.1	21.9	T.	0	37.6
1906-7	0	1.1	15.5	16.1	25.5	6.6	3.1	T.	67.9
1907-8	0	0	7.0	4.3	9.3	4.8	0.8	0	26.2
1908-9	0	T.	3.5	11.2	2.3	3.1	0	0	20.1
1909-0	T.	T.	12.3	11.9	12.6	0.2	0	0	37.0
1910-1	0	1.4	8.2	0.7	19.5	3.1	7.7	0	40.6
1911-2	0	0.3	3.7	17.8	0.2	9.1	0.5	0	31.6
1912-3	0	0.3	9.2	9.3	7.7	0.5	1.4	0	19.4
1913-4	0.4	T.	0.9	10.3	20.6	5.2	2.0	0	39.4
1914	T.	T.	4.1	......	......	......	......	......	......
Means	T.	1.8	8.5	11.8	11.8	7.5	2.3	T.	43.9

THE SEVERITY OF THE WINTER OF 1913-14.

December, 1913, as in 1912 and in 1911, was much above the normal temperature, the average daily excess having been 6.2°. Only four warmer Decembers have been recorded in the 44 years of Weather Bureau record.

In January, in spite of the fact that a cold wave of greater severity than had been experienced for 18 years prevailed on the 13th and 14th, the month as a whole was 1.7° above the normal. There was a total snowfall in January of 10.3 inches, 1.5 less than the average for 43 years. Excluding the last 8 days normal winter conditions obtained. The mild weather of the last part of January continued a week into February. Then began a period of 19 days with continuous cold weather and snowstorms of the regular New England type. On the morning of the 20th there was an accumulated depth of 16.5 inches, a greater amount than has been measured since the winter of 1904. The total snowfall for the month was the greatest since February, 1907.

To sum up, therefore, one may say that as regards the sternest aspect of winter, extreme low temperature, the season, though short, was the most severe for 18 years, except for a fortnight in the last part of January and early February, while the succession of snowstorms and gales in the same period was the most severe for the past 7 winters.

ANNUAL METEOROLOGICAL SUMMARY.

MONTH.	TEMPERATURE. (Degrees Fahrenheit.)							Relative humidity (per cent).	PRECIPITATION. (In. and hundredths.)				Percentage of sunshine.	WINDS.					NUMBER OF DAYS WITH—											
	MEAN.			EXTREMES.												MAXIMUM (For five min.).											MAX. TEMP.		MIN. TEMP.	
	Maximum.	Minimum.	Monthly.	Maximum.	Date.	Minimum.	Date.		Total.	Maximum in 24 hours.	Date.	Snowfall.		Average hourly velocity.	Prevailing direction.	Velocity.	Direction.	Date.	Gales (40 miles per hour or over).	Clear.	Partly cloudy.	Cloudy.	Precipitation (0.01 in. or over).	Thunderstorms.	Fog, dense.	Snow (0.1 in. or over).	32 degrees or below.	90 degrees or above.	32 degrees or below.	Zero or below.
January	36	21	29	63	30	—9	13	73	3.26	1.04	31–1	10.3	36	12.9	nw.	51	w.	12	4	5	8	18	10	0	0	7	9	0	25	2
February	32	17	24	56	4	—11	12	64	3.07	1.49	14	20.6	65	12.7	w.	44	e.	14	1	11	10	7	8	0	0	4	16	0	26	3
March	44	30	37	74	27	16	21	74	4.16	1.27	27–28	5.2	45	11.4	nw.	50	e.	1	1	8	6	17	13	2	3	6	2	0	15	0
April	54	37	45	87	19	27	4	73	5.87	1.72	26–27	2.0	54	12.0	nw.	47	w.	12	1	12	5	13	12	0	1	2	0	0	6	0
May	70	51	60	95	27	38	1	65	2.78	1.29	5	0	56	9.8	w.	29	e.	13	0	10	11	10	7	4	3	0	0	2	0	0
June	76	58	67	94	25	49	9	64	1.40	0.67	27–28	0	61	10.3	sw.	32	nw.	16	0	8	16	6	7	3	0	0	0	4	0	0
July	76	61	69	90	18	51	3	78	2.64	1.11	1–2	0	55	8.6	sw.	34	nw.	21	0	8	13	10	10	3	3	0	0	1	0	0
August	78	63	70	90	10	55	25	81	3.20	1.30	20	0	47	8.1	sw.	22	nw.	22	0	7	10	14	11	4	2	0	0	1	0	0
September	74	55	65	94	23	34	29	69	0.21	0.13	4	0	73	9.0	nw.	29	w.	7	0	20	5	5	4	1	0	0	0	4	0	0
October	66	49	57	83	3	29	28	75	1.54	1.21	16–17	T.	61	9.1	sw.	28	nw.	27	0	15	7	9	5	1	4	0	0	0	2	0
November	51	35	43	74	1	20	24	69	2.72	2.07	19–20	T.	50	11.8	w.	43	ne.	19	1	7	11	12	6	0	1	0	1	0	11	0
December	37	24	30	62	3	— 2	26	74	3.46	0.92	21	4.1	43	11.5	w.	40	se.	14	1	6	11	14	10	0	2	2	9	0	27	2
Total	57.7	41.7	49.7	95	May 27	—11	Feb. 12	71.6	34.31	2.07	Nov. 19–20	42.2	54	10.6	sw.	51	w.	Jan 12	9	117	113	135	103	18	19	21	37	12	112	7

COMPARATIVE DATA.

Monthly and Annual Precipitation.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1818..	2.64	3.49	4.05	6.15	5.96	3.47	4.08	0.46	7.81	2.11	1.91	0.86	42.99
1819..	0.70	2.27	6.21	3.74	3.06	3.56	2.02	4.38	5.29	1.40	1.22	1.63	35.48
1820..	3.12	4.25	4.90	0.45	5.08	3.42	4.19	5.15	2.43	5.39	3.00	2.80	44.18
1821..	1.41	4.42	2.53	4.90	4.84	2.79	2.35	1.58	4.73	2.29	3.12	1.93	36.89
1822..	1.29	2.34	2.02	2.99	0.78	3.54	4.32	1.20	2.15	2.53	2.58	1.46	**27.20**
1823..	3.00	4.57	7.72	2.21	6.40	0.93	5.74	1.98	1.95	3.95	1.92	6.93	47.30
1824 .	3.95	5.99	1.81	4.72	1.43	1.60	0.88	3.68	6.43	1.01	1.72	2.80	36.02
1825..	2.79	3.43	4.70	0.37	1.36	4.77	1.24	5.62	2.66	3.21	0.81	4.38	35.34
1826..	2.55	1.48	3.81	1.50	**0.25**	3.85	2.90	**12.10**	3.03	3.80	2.31	3.56	41.14
1827..	3.92	2.97	2.51	4.75	5.34	2.56	2.59	4.88	4.81	5.28	5.71	3.59	48.91
1828..	2.15	2.79	1.84	2.00	4.67	1.59	4.58	**0.37**	3.82	2.79	5.55	**0.26**	32.41
1829..	4.93	5.62	4.30	3.45	2.71	1.64	6.98	4.95	2.62	1.65	5.74	2.26	46.85
1830..	2.36	1.63	3.51	1.21	3.93	3.46	4.90	2.64	5.65	2.38	5.32	5.96	42.95
1831..	4.44	3.68	3.07	6.97	3.65	4.32	5.53	5.57	3.83	4.42	3.20	2.93	51.61
1832..	4.47	3.74	2.65	5.56	7.27	0.50	3 41	6.14	2.07	2.46	3.57	4.85	46.69
1833..	2.96	2.53	2.71	2.30	1.03	3.23	2.01	0.82	2.88	6.00	5.53	5.86	37.86
1834..	1.39	1.13	**0.96**	2.93	6.33	3.09	7.71	2.47	3.71	4.62	2.90	2.36	39.60
1835..	3.25	1.37	4.27	4.54	2.07	2.74	9.07	2.89	1.31	1.87	2.08	2.40	37.86
1836..	**8.84**	3.57	2.90	1.58	1.85	4.33	2.12	1.53	0.54	4.04	5.43	4.13	40.86
1837..	4.10	4.14	3.02	3.07	5.79	2.98	1.80	1.67	0.56	1.58	2.35	2.46	33.52
1838..	3.07	2.77	3.09	2.62	3.32	2.55	1.20	4.26	9.87	5.02	3.95	0.80	42.52
1839..	0.98	3.11	1.18	7.73	4.27	2.25	3.32	5.70	2.00	2.50	1.71	6.35	41.10
1840..	3.12	2.57	4.55	4.60	2.23	2.78	2.93	4.00	2.12	4.48	**11.63**	4.15	49.16
1841..	6.00	1.60	3.50	8,82	1.90	1.95	2.10	4.20	2.86	3.80	4.55	5.77	47.05
1842..	0.80	3.20	3.35	3.50	2.90	5.30	1.82	4.44	3.25	0.80	4.45	5.30	39.11
1843..	2.20	6,08	6.17	3.88	1.60	4 61	2.15	6.88	0.98	4.82	3.40	3.92	46.69
1844..	3.68	2.42	6.00	**0.20**	2.72	1.40	2.17	2.62	3.53	5.80	3.15	3.85	37.54
1845..	4.58	4.25	3.83	1.23	2.82	2.05	3.28	1.82	2.23	4.00	10.25	5.98	46.32
1846..	3.12	2.95	2.73	1.23	2.02	2.25	2.51	1.80	1.30	1.35	4.17	4.52	29.95
1847..	3.28	4.70	4.77	2.20	2.03	4.09	2.65	6.45	6.64	1.05	5.12	3.95	46.93
1848..	2.30	3.90	4.05	1.40	6.30	1.73	1.35	3.10	3.55	5.10	2.25	5.95	40.98
1849..	**0.35**	1.15	7.35	0.90	3.10	1.45	**0.85**	6.25	1.25	8.10	5.50	4.05	40.30
1850..	4.59	2.52	5.32	4.82	6.63	2.77	2.70	5.30	7.15	2.10	3.32	6.76	53.98
1851..	1.30	4.20	3.88	9.37	3.31	1.80	3.09	1.27	3.50	4.43	5.51	2.65	44.31
1852..	4.85	2.85	4.45	10.18	1.95	2.35	3.28	7.63	1.65	2.19	3.47	3.09	47.94
1853..	2.44	5.30	2 27	3.78	5.63	0.30	3.64	9 40	3.80	3.92	4.43	3.95	48.86
1854..	2.91	4.87	2.84	6.63	4.33	2.47	3.70	0.58	3.86	2.08	6.80	4.64	45.71
1855..	7.22	4.67	1.18	4.28	1.20	3.09	4.15	1.46	1.13	4.61	5.27	5.93	44.19
1856..	5.32	0.80	1.33	4.37	7.10	2.90	4.02	11.11	4.90	2.70	3.33	4.28	52.16
1857..	5.36	2.45	3.09	**10.83**	5.57	2.02	5.53	1.18	2.56	4.50	2.52	5.26	56.87
1858..	3.28	2.30	2.18	5.18	3.89	**8.09**	4.56	7.03	5.02	3.03	3.38	4.73	52.67
1859..	5.93	4.05	7.64	3.36	3.63	7.89	1.58	4.72	4.40	3.28	3.75	6.47	56.70
1860..	1.89	3.85	2.19	1.73	2.35	8.01	5.90	4.30	7.35	2.66	5.37	5.86	51.46
1861..	6.04	3.57	7.48	5.89	2.97	3.64	2.76	6.04	1.77	2.66	4.90	2.35	50.07
1862..	8.30	3.29	4.70	1.97	2.70	6.78	7.33	4.20	5.61	4.85	8.32	3.01	61.06
1863..	4.51	4.54	6.42	9.08	2.82	2.56	**12 38**	5.64	3.12	3.83	6.48	6.34	**67.72**
1864..	3.87	1.43	**11.75**	4.72	3.31	1.47	1.90	4.17	2.60	4.80	4.00	5.28	49.30
1865..	4.47	5.08	4.83	2.57	6.90	2.83	4.26	1.42	0.62	6.21	4.46	4.18	47.83
1866..	3.73	5.28	4.70	2.03	5.04	3.41	5.42	3.87	5.90	2.72	3.74	4.86	50.70
1867..	6.06	6.55	6.12	2.52	4.11	2.74	4.76	10.78	0.44	6.76	2.32	2.48	55.64
1868..	6.09	1.88	5.04	6.94	**10.38**	3.79	1.10	7.53	**11.95**	1.78	5.31	2.32	64.11
1869..	4.03	**9.98**	8.74	2.05	6.88	4.44	3.30	2.19	5.18	6.71	3.74	**9.04**	66.28
1870..	8.16	7.03	4.88	8.42	2.58	7.59	4.01	1.57	0.67	6.80	4.40	3.62	59.73
1871..	0.92	2.63	4.55	3.79	4.34	5.55	3.22	3.08	1.30	5.88	6.42	3.38	45.06
1872..	2.11	2.31	4.05	1.31	3.29	4.84	4.00	10.68	6.04	4.85	3.66	3.09	50.23
1873..	5.76	3.21	3.76	3.83	5.16	0.54	3.84	6.21	2.91	5.33	8.34	5.64	54.53
1874 .	4.32	3.41	1.60	7.97	3.71	3.94	3.47	6.67	2.05	1.39	2.85	2.14	43.52
1875..	3.68	3.74	5.04	4.92	3.76	7.25	3.93	3.50	3.12	4.99	5.47	0.75	50.15
1876..	1.87	4.54	7.19	3.61	2.70	1.72	5.86	1.23	3.84	1.66	11.03	3.71	48.96
1877..	3.33	**0.45**	9.79	4.19	3.38	3.21	2.27	4.49	0.60	**8.84**	9.62	1.32	51.49
1878..	7.60	4.40	5.91	6.14	1.03	2.28	4.58	7.66	3.47	6.76	8.94	6.76	65.53
1879..	2.79	4.35	3.90	6.58	0.97	6.24	3.09	6.71	1.84	0.91	2.97	4.22	44.57
1880..	3.72	4.11	3.25	2.85	1.63	0.75	6.86	2.90	2.36	3.15	2.30	3.42	37.30
1881..	7.21	4.89	9.86	1.66	4.16	7.79	2.96	1.23	2.50	2.84	3.73	3.80	52.63
1882..	3.68	4.77	3.35	2.50	6.05	1.03	3.91	1.46	10.93	2.29	1.20	2.65	43.82
1883..	3.59	2.74	2.33	2.83	5.11	2.07	2.73	0.39	1.50	6.40	2.08	3.71	35.48
1884..	6.27	5.74	4.86	4.76	3.31	4.01	4.25	5.01	**0.31**	3.17	3.03	4.46	49.18
1885..	5.33	3.00	1.15	3.30	4.26	3.70	1.44	7.64	1.70	5.71	5.78	2.09	45.10
1886..	7.08	7.04	3.20	1.70	3.08	1.34	1.81	3.64	2.73	3.27	3.59	3.66	42.14
1887..	4.86	3.69	3.86	2.62	1.67	1.98	3.59	3.05	0.97	2.53	2.22	2.71	33.75
1888..	2.26	2.36	3.32	2.04	5.20	2.69	1.79	6.53	6.77	3.58	4.97	4.38	45.89
1889..	4.11	1.54	1.19	3.07	4.15	2.77	5.80	3.95	3.19	3.31	4.91	1.83	39.82
1890..	2.00	2.29	5.88	2.29	4.48	2.21	1.93	2.70	5.04	5.63	0.97	3.72	39.14
1891..	4.39	3.66	3.94	1.71	1.56	3.06	3.73	3.87	2.29	5.56	2.35	3.58	39.70
1892..	4.62	2.15	3.91	0.93	5.15	3.05	2.56	4.87	1.90	2.31	4.45	1.12	37.02
1893..	2.56	6.22	2.80	3.13	5.23	2.20	1.72	6.46	1.59	2.94	1.83	5.16	41.84

COMPARATIVE DATA.

Monthly and Annual Precipitation—Continued.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1894..	3.01	3.15	1.01	3.78	4.12	0.80	3.09	3.03	2.14	5.11	3.10	4.28	36.62
1895..	3.79	1.11	2.72	3.65	2.71	1.73	2.98	3.24	1.53	6.19	8.07	2.45	40.17
1896..	2.25	3.94	5.41	1.56	1.68	2.71	2.90	2.15	6.40	3.15	3.70	1.70	37.55
1897..	3.16	2.12	2.79	3.17	4.00	4.46	4.22	3.95	2.38	**0.41**	6.19	3.92	40.77
1898..	3.50	4.81	1.82	6.39	4.33	1.60	4.42	6.38	1.93	7.17	5.32	2.19	49.86
1899..	4.19	3.03	5.95	1.29	0.81	2.86	2.52	2.52	5.09	2.40	2.51	1.52	34.69
1900..	4.20	6.83	4.60	1.90	5.07	1.85	2.69	2.46	4.62	3.41	4.17	2.25	44.05
1901..	1.56	0.66	6.58	7.43	6.31	1.31	5.20	3.25	2.50	3.02	2.41	8.49	48.72
1902..	1.65	4.19	5.29	2.87	1.07	1.77	2.88	2.20	2.08	4.36	1.09	4.48	33.93
1903..	3.43	3.90	5.95	4.43	0.32	7.19	2.99	3.33	2.43	3.95	1.48	2.57	41.97
1904..	4.80	2.49	2.43	9.14	3.38	2.06	1.23	2.19	5.57	2.13	1.70	2.52	39.64
1905..	4.09	1.59	2.25	2.14	1.47	5.23	1.00	3.39	5.10	0.82	1.77	3.23	32.08
1906..	2.96	2.66	5.45	2.15	4.91	2.57	5.38	1.58	2.64	3.88	2.55	3.96	40.69
1907..	2.54	1.88	1.66	3.31	3.12	2.56	1.09	1.10	7.43	2.54	6.02	4.31	37.56
1908 .	2.47	2.96	2.97	1.70	3.78	1.08	3.17	4.35	0.68	3.70	**0.74**	2.47	30.07
1909..	3.94	4.71	3.28	3.92	2.33	4.45	0.97	3.55	5.15	1.07	4.11	3.19	40.67
1910..	4.25	3.44	1.25	2.22	1.02	4.89	1.15	0.98	2.14	1.14	3.75	2.10	28.33
1911..	2.28	2.85	2.95	2.28	0.35	3.67	4.65	4.17	2.95	2.27	4.29	3.07	35.78
1912..	2.87	2.38	4.18	3.07	4.04	**0.27**	5.16	1.94	1.67	1.00	2.61	5.36	34.55
1913..	2.38	2.99	4.81	4.77	3.22	0.64	2.69	2.86	2.51	6.04	2.15	3.05	38.11
1914..	3.26	3.07	4.16	5.87	2.78	1.40	2.64	3.20	**0.21**	1.54	2.72	3.46	34.31
M'ns	*3.65	3.36	4.00	3.52	3.28	2.94	3.24	3.77	3.09	3.60	3.94	3.36	41.75
M'ns	†3.70	3.49	4.10	3.81	3.56	3.10	3.47	4.01	3.37	3.62	4.06	3.74	44.10

NOTE.—Bold-faced figures indicate greatest and least monthly amounts.

* Computed from the Weather Bureau records of 44 years.

† Computed from the 97-year record, the data of years prior to 1871 being furnished by Mr. I. Y. Chubbuck, of Roxbury.

EXTREMES OF PRECIPITATION AND WIND.

Month.	Precipitation.			Wind.			
	24-hour max.	Year.	Day.	Max. vel.	Direction.	Year.	Day.
January	3.25	1881	21–22	64	ne.	1886	9
February	4.45	1886	12	60	e.	1880	3
March	3.04	1877	26–27	72	s.	1877	9
April	3.18	1904	27–28	60	ne.	1891	3
May	3.00	1883	22	48	e.	1893	4
June	5.35	1875	9–10	41	e.	1903	12
July	3.49	1911	28	60	sw.	1879	16
August	4.99	1879	18–19	48	s.	1893	29
September	4.26	1905	3–4	60	n.	1888	26
October	4.92	1895	12–13	54	ne.	1890	19
November	5.43	1876	20–21	65	w.	1875	29
December	2.87	1888	17–18	60	e.	1900	5

COMPARATIVE DATA.

Monthly and Annual Mean Temperatures.

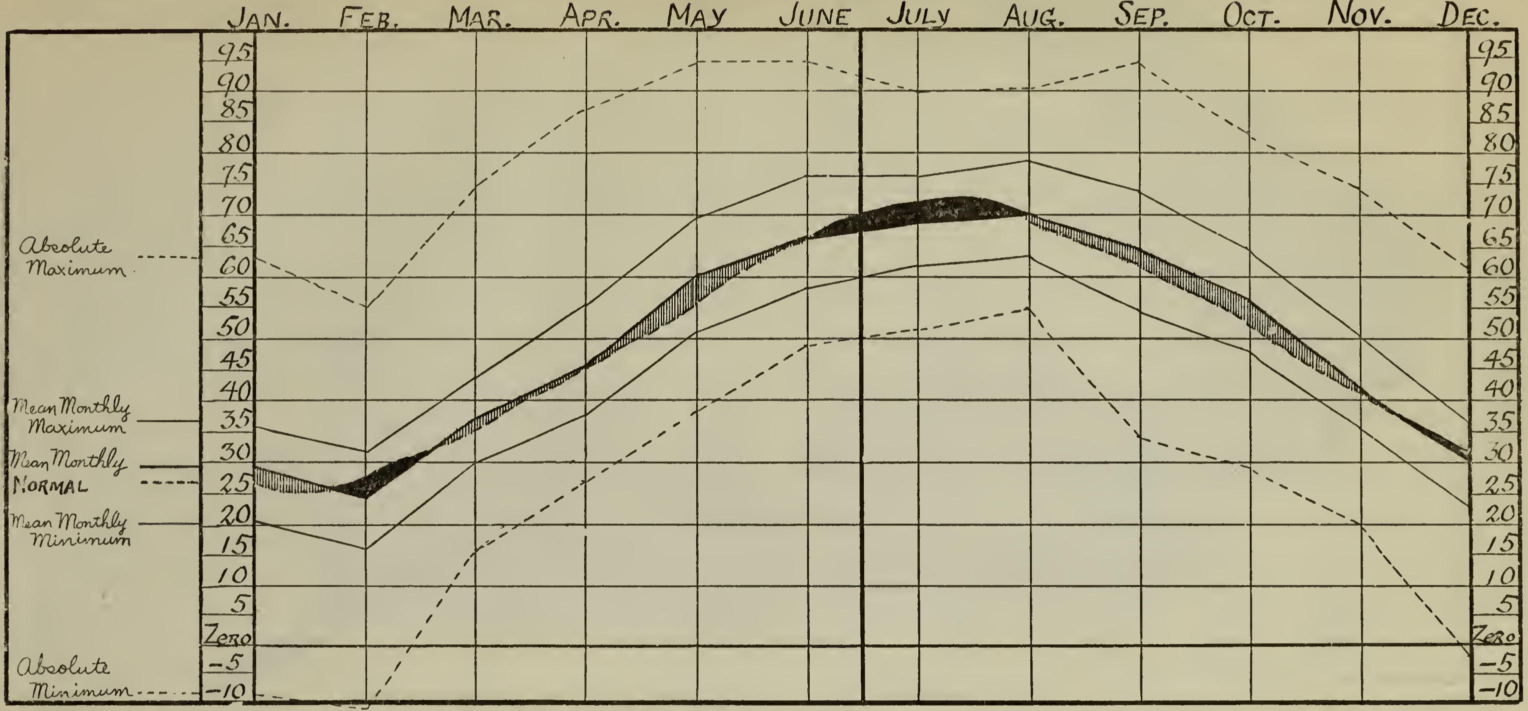
Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1871.	26	29	42	47	58	66	71	72	**59**	54	37	28	48.9
1872.	27	28	**26**	47	59	69	76	73	64	52	41	23	48.8
1873.	25	26	34	45	57	67	73	70	63	54	**33**	32	48.2
1874.	30	27	34	**39**	55	66	73	68	64	53	42	31	48.6
1875.	**20**	22	31	43	58	67	72	71	61	50	35	30	**46.6**
1876.	31	27	33	44	55	69	74	70	60	**48**	41	**22**	47.9
1877.	25	**34**	35	44	55	67	71	72	65	52	44	36	50.1
1878.	28	31	40	48	56	65	74	70	64	56	41	30	50.2
1879.	24	25	34	42	60	65	71	69	62	**58**	39	32	48.4
1880.	35	32	33	46	**64**	69	72	71	65	52	38	27	50.3
1881.	22	28	37	44	57	62	70	71	**68**	54	44	39	49.6
1882.	26	30	36	43	**51**	67	73	72	64	55	39	30	48.8
1883.	24	29	31	45	56	**70**	72	68	60	**48**	43	29	47.9
1884.	24	31	34	44	55	67	69	70	67	53	41	34	49.0
1885.	27	**21**	28	47	53	67	72	68	60	52	44	33	47.6
1886.	26	27	33	49	57	63	71	68	63	52	43	28	48.4
1887.	25	29	32	44	60	65	75	68	60	52	42	32	48.5
1888.	**20**	28	32	43	53	67	69	70	60	**48**	44	35	47.3
1889.	36	26	38	48	60	69	69	67	63	**48**	45	38	50.7
1890.	32	33	35	46	57	64	71	69	63	51	42	26	49.1
1891.	31	32	34	48	56	65	69	70	67	52	41	**40**	50.4
1892.	28	28	33	48	56	**70**	73	70	62	53	41	30	49.4
1893.	21	27	34	44	56	65	71	70	60	55	42	30	47.9
1894.	30	27	42	47	58	69	74	68	65	54	38	32	50.3
1895.	29	25	35	46	60	67	69	71	66	50	45	36	49.8
1896.	25	29	32	47	60	66	72	71	62	50	**46**	30	49.2
1897.	28	31	37	49	58	62	72	70	63	54	41	34	49.9
1898.	29	33	43	44	56	66	72	**73**	66	54	42	32	50.8
1899.	29	27	34	48	58	**70**	73	69	62	54	42	36	50.2
1900.	30	29	34	49	55	69	74	71	65	57	45	33	50.8
1901.	28	24	36	44	54	68	73	71	65	54	37	32	49.0
1902.	27	29	43	48	58	64	**68**	68	63	54	**46**	28	49.6
1903.	27	31	**44**	48	58	**60**	71	**65**	64	54	40	29	49.5
1904.	22	23	35	45	61	64	71	69	62	51	38	26	47.1
1905.	25	23	37	47	58	65	73	69	62	54	45	35	49.1
1906.	36	30	32	47	58	66	70	72	65	52	42	29	50.0
1907.	27	22	38	43	52	65	72	70	64	50	43	37	48.7
1908.	31	27	39	47	59	**70**	74	69	66	55	44	33	51.2
1909.	30	33	37	48	56	69	72	69	63	53	**46**	31	50.5
1910.	32	30	42	**52**	58	65	75	69	63	56	41	28	50.8
1911.	32	27	35	46	62	66	**77**	69	63	53	42	39	50.9
1912.	21	28	36	47	59	68	73	69	64	57	**46**	38	50.5
1913.	**39**	28	42	48	55	68	74	71	62	56	**46**	38	**52.3**
1914.	29	24	37	45	60	67	69	70	65	57	43	30	49.7
M'ns	27.7	28.0	35.7	46.0	57.2	66.5	72.0	69.8	63.3	53.0	41.8	31.8	49.4

NOTE.—Bold-faced figures indicate highest and lowest monthly means.

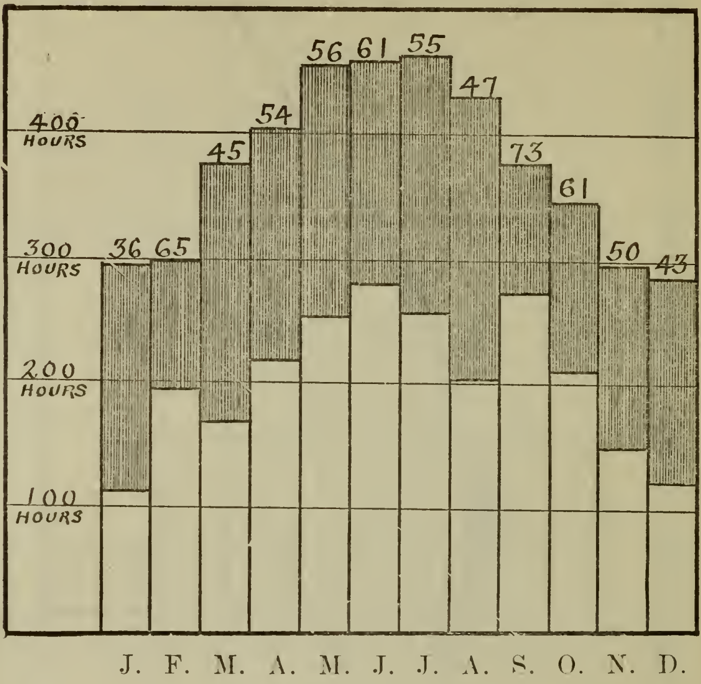
TEMPERATURE EXTREMES.

Month.	Maximum.	Year.	Day.	Minimum.	Year.	Day.
January	70	1876	1	—13	1882	24
February	64	1880	29	—11	1896 1914	17 12
March	78	1910	25	— 8	1872	6
April	87	1914	19	11	1874	5
May	97	1880	26	31	1882	3
June	98	1874	29	42	1884	2
July	104	1911	4	46	1874	22
August	97	1881 1900	31 26	47	1880 1885 1894 1908	27 28 22 29
September	102	1881	7	34	1879 1914	26 29
October	90	1881	1	25	1879	26
November	76	1909	12	— 2	1875	30
December	69	1912	6	—12	1883	23

Temperature Chart.—Partly shaded area shows excess and black area shows deficiency from normal.



SUNSHINE CHART.

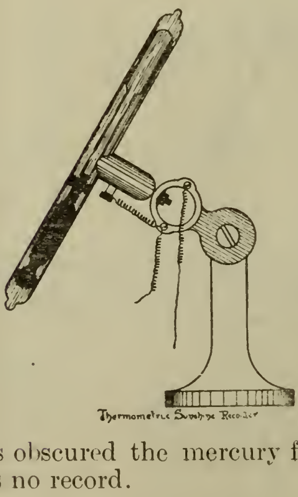


The height of the column indicates the total possible number of hours of sunshine in each month. Figures above the columns are monthly percentages.

The shaded areas show the number of daylight hours of obscured sunlight in each month.

The unshaded areas show the number of hours of actual sunshine in each month.

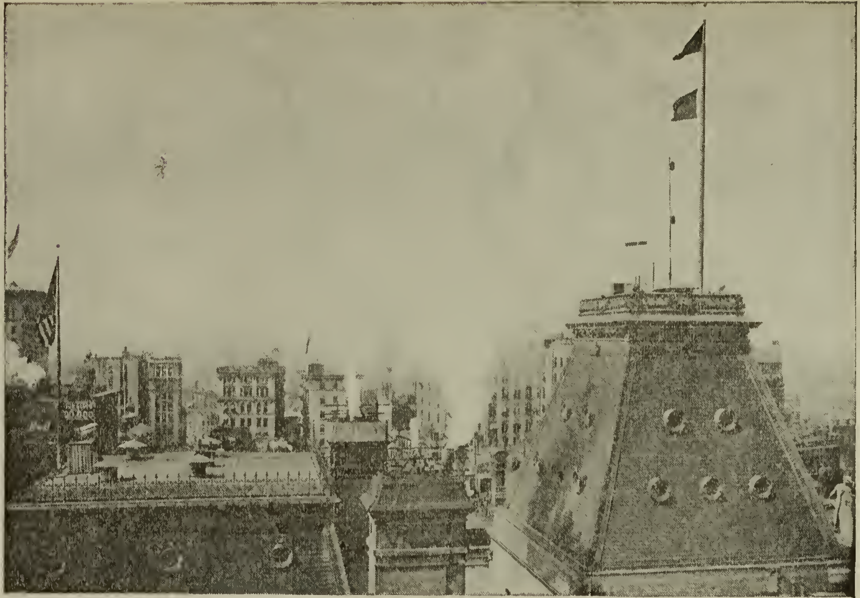
THE MARVIN SUNSHINE RECORDER.



The accompanying cut shows the standard instrument in use at U. S. Weather Bureau stations for recording the duration of sunshine. It consists of a thermometer tube terminating at its upper end in a bright bulb and at its lower end in a carbon-coated bulb, the whole being enclosed in a vacuum tube to nullify the effect of atmospheric temperature. The difference in temperature between the two bulbs when the sun shines forces a mercury index up the tube until it closes a circuit between two electrodes, causing a record to be made in the office. When the sun is obscured the mercury falls, the circuit is broken and there is no record.

THE rain gage is in the center of the flat roof. The thermometer shelter is directly to the right of the chimney in the foreground. On the roof of the tower are the sunlight recorder, anemometer, anemoscope, storm-warning lantern pole, and storm-warning flag pole.

FOR a city exposure, the location of all of the instruments is excellent for obtaining true readings, unaffected by artificial conditions.



WEATHER BUREAU ROOF AND TOWER, BOSTON, MASS.

HEIGHT above the ground:

Thermometers, 115 feet.

Rain Gage, 154 feet.

Anemometer, 188 feet.

These instruments register electrically and automatically in the office below.

THE barometers and the recording barograph are in the office, 125 feet above the level of the sea. They are not exposed out of doors as equally reliable readings are obtained indoors.

1914

JANUARY

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

FEBRUARY

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

MARCH

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

APRIL

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

MAY

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

JUNE

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

JULY

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

AUGUST

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

SEPTEMBER

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

OCTOBER

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

NOVEMBER

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

DECEMBER

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, Chief

5967.106

ANNUAL METEOROLOGICAL SUMMARY

WITH COMPARATIVE DATA

BOSTON, MASS.
1915

COMPILED UNDER THE DIRECTION OF
JOHN W. SMITH
DISTRICT FORECASTER

BOSTON, MASS.
WEATHER BUREAU OFFICE
JANUARY 3, 1916

U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, Chief

ANNUAL METEOROLOGICAL SUMMARY

WITH COMPARATIVE DATA

BOSTON, MASS.
1915

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DISTRICT FORECASTER

8643

BOSTON, MASS.
WEATHER BUREAU OFFICE
JANUARY 3, 1916

MARKED FEATURES OF THE WEATHER IN 1915.

TEMPERATURE.

The year 1915 began with a warm month, January having been 6.0° above the normal. In the 45 years of Weather Bureau record the average January temperature has been higher in 1880, 1889, 1906 and 1913. The maximum temperature exceeded 60° on 3 days, and the minimum did not fall below 20° between the 5th and 27th. Warm weather continued through February, which was 5.2° above normal. In March there was no marked departure, while April was 5.3° above the normal, with two unusually warm days, the 26th and 27th, 84° and 82°, respectively, having been reached on those days. May and the Summer months showed no marked departure, and there was a moderate excess in the four last months. In September, for the first time in 45 years, there were 5 days with maximum temperature above 90°. The mean for the entire year, 51.2°, was the highest of record, except that of 1913.

PRECIPITATION.

The first month was a wet one, the total, 6.33 inches, being 2.51 inches above the normal for January. Less than 12 per cent of this total was due to melted snow. The February precipitation was normal, but again only 12 per cent was due to melted snow. From February 26 to April 2, inclusive, 36 days, there was no measurable amount of precipitation. This was the longest absolute drouth of official record, the greatest previous duration of rainless weather in the last 45 years having been 25 days in 1874—from August 22 to September 16, inclusive. The rainfall in April, May and June, was but 42 per cent of the normal, so that at the end of the first half of the year the deficiency was 6.74 inches, more than in any year at the end of June since 1826, except in 1911. Reference to the chart on page 11 will show clearly the excess in January and the first few days of February, followed by a small accumulation until the first of July. On July 1 there occurred an extraordinary rainstorm, 4.46 inches having fallen in 24 hours. This was the largest 24-hour amount of record in July and the fifth largest for all months. The 2-hour rate, 2.45 inches, was the greatest for that period in 45 years, and the limits set by the Weather Bureau beyond which the rate of fall is considered excessive were exceeded for 2 hours and 50 minutes—from 3.53 to 6.43 a. m.—when there fell 3.01 inches. This and other heavy rains on the 2d and 8th brought the rainfall to normal on the latter date. It was the wettest July of Weather Bureau record, and was followed by a wet August, bringing the total at the end of the latter month to 0.35 of an inch above normal for the 8 months. September was very dry, 2.50 inches deficient; October, 1.04 inches, and November, 1.96 inches less than normal. On December 13 a severe east-northeast gale brought 1.17 inches. Boston had a narrow escape from a heavy snowstorm such as occurred in the interior parts of the State, but as the center of the disturbance apparently passed northeastward very near Boston, there were easterly winds and therefore melting temperatures at the height of the storm.

BAROMETER.

The extreme lowest sea-level reading was 28.80 inches at 3 . m., December 14, coincident with the heaviest gale of the ear. Another low reading occurred in the same month on the 26th, when it was 28.82 inches, accompanied by the second eaviest gale of the year and followed by a remarkably quick ise. Between noon and 8 p. m. the barometer rose .97 of an nch. The highest pressure of the year was 30.58 inches on February 19.

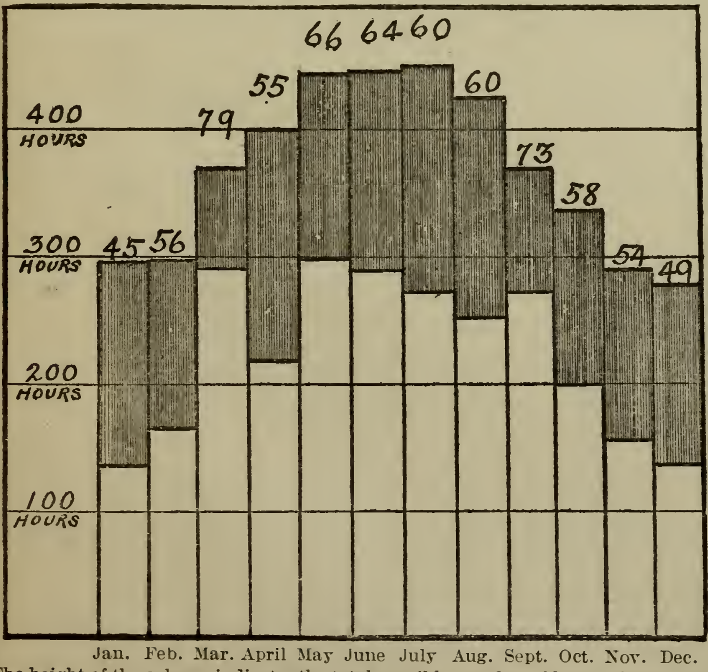
WIND.

The wind attained a velocity of 42 miles, north, on January 13, and 42 miles, west, on September 26, the only winds of gale velocity until December. A severe storm on December 13–14 brought a 5-minute maximum rate of 52 miles, northeast, the highest since March 20, 1907. Again on December 26 there was a gale velocity this time with a maximum rate of 47 miles from the northwest. The prevailing direction for the first four months was northwest or west, but in June and July it was east, which is unusual, although not unprecedented. In the rest of the year the prevailing direction was west and southwest.

SUNSHINE.

In regard to sunshine there was nothing of particular interest except in March, the rainless month, when the percentage of sunshine was 79 per cent of the possible amount, which has been equalled or exceeded only four times in the 23 years of record, and never has been reached in March.

SUNSHINE CHART.



The height of the column indicates the total possible number of hours of sunshine in each month. Figures above the columns are monthly percentages.

The shaded areas show the number of daylight hours of obscured sunlight in each month. The unshaded areas show the number of hours of actual sunshine in each month.

MISCELLANEOUS DATA FOR 1915.

Barometric Pressure (reduced to sea-level). Mean, 29.99 inches; highest, 30 58 inches, February 19; lowest, 28.80 inches, December 14.

Temperature. Greatest daily range, 42°, April 26; least daily range, 2°, July 2. Greatest monthly range, 59°, January; least, monthly range, 32°, July. Highest mean temperature of three consecutive days, 82°, September 15–17; lowest mean temperature of three consecutive days, 16°, February 2–4.

Precipitation. Longest period without precipitation, 36 days, February 26 to April 2. Longest period with precipitation, 5 days, July 1–5.

Frost. In Spring—Last killing frost occurred on April 4. In Autumn—First killing frost occurred on November 18.

Snow. Greatest snowfall in 24 hours, 6.1 inches, April 3–4. Greatest depth of snow on the ground, 6.5 inches, February 3. Last snow in spring occurred on April 16; first snow in autumn occurred on November 17.

Thunderstorms. First thunderstorm, April 11; last thunderstorm, December 13.

SEASONAL SNOWFALL.

Years.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Season.
1871-2	0	T.	12.3	3.4	11.3	17.3	0	0	44.3
1872-3	0	0.3	23.7	11.6	8.3	5.2	T.	T.	49.1
1873-4	0	7.5	13.7	20.3	22.7	3.9	28.3	0	**96.4**
1874-5	0	T.	5.7	10.4	0.3	27.3	6.3	0	50.0
1875-6	0	T.	1.1	0.5	3.7	T.	T.	0	**5.3**
1876-7	0	0.3	9.0	17.5	T.	7.9	T.	0	34.7
1877-8	T.	T.	0.8	14.3	12.6	T.	0	0	27.7
1878-9	0	0.3	1.2	18.2	20.7	4.7	T.	0	45.1
1879-0	0	6.0	18.6	3.2	11.4	9.6	0	0	48.8
1880-1	0	0.8	19.2	20.5	9.0	0.1	4.2	0	53.8
1881-2	0	1.5	T.	15.4	17.9	5.6	0	0	40.4
1882-3	0	10.0	6.0	9.6	9.0	4.3	0	0	38.9
1883-4	0	T.	24.4	1.1	12.5	15.0	9.5	0	62.5
1884-5	0.5	4.8	2.3	3.9	3.3	9.5	T.	0	24.3
1885-6	0	0.5	5.5	26.0	4.0	4.5	T.	0	40.5
1886-7	0	0	18.5	16.0	12.0	11.5	15.0	0	73.0
1887-8	0	T.	6.5	13.1	9.6	12.0	T.	T.	41.2
1888-9	0	4.8	0	4.5	7.5	2.2	0	0	19.0
1889-0	0	T.	4.0	8.5	6.3	20.3	0	0	39.1
1890-1	0	T.	14.5	14.8	13.8	16.2	T.	0	59.3
1891-2	T.	0	T.	12.0	11.5	20.0	0	0	43.5
1892-3	0	3.0	2.0	14.6	35.3	4.5	7.9	0	67.3
1893-4	0	0.4	18.5	15.0	21.6	T.	8.5	0	64.0
1894-5	0	6.7	13.5	13.9	8.8	3.8	0.5	0	47.2
1895-6	0	T.	5.2	9.5	9.5	14.5	0.2	0	38.9
1896-7	0	2.2	8.6	18.2	10.9	3.3	T.	0	43.2
1897-8	0	8.1	7.8	16.3	11.5	6.0	2.2	0	51.9
1898-9	0	17.8	7.7	6.1	30.2	9.3	T.	0	71.1
1899-0	T.	0.1	T.	8.3	9.0	7.6	0	T.	25.0
1900-1	0	0.1	0.8	7.8	8.8	T.	0	0	17.5
1901-2	0	0	12.6	11.0	13.0	7.5	T.	0	44.1
1902-3	T.	T.	22.8	4.2	14.7	0.3	T.	0	42.0
1903-4	0	0	10.6	35.7	16.5	8.9	1.4	0	73.1
1904-5	T.	0	12.0	21.3	8.0	3.6	T.	0	44.9
1905-6	0	T.	3.5	6.1	6.1	21.9	T.	0	37.6
1906-7	0	1.1	15.5	16.1	25.5	6.6	3.1	T.	67.9
1907-8	0	0	7.0	4.3	9.3	4.8	0.8	0	26.2
1908-9	0	T.	3.5	11.2	2.3	3.1	0	0	20.1
1909-0	T.	T.	12.3	11.9	12.6	0.2	0	0	37.0
1910-1	0	1.4	8.2	0.7	19.5	3.1	7.7	0	40.6
1911-2	0	0.3	3.7	17.8	0.2	9.1	0.5	0	31.6
1912-3	0	0.3	9.2	9.3	7.7	0.5	1.4	0	19.4
1913-4	0.4	T.	0.9	10.3	20.6	5.2	2.0	0	39.4
1914-5	T.	T.	4.1	7.0	5.1	T.	6.1	0	22.3
1915	0	0.2	6.7	......	......	......	......	......	......
Means	T.	1.7	8.5	11.6	11.7	7.3	2.4	T.	43.4

EXPLANATION OF THE WEATHER MAP.

The daily weather maps of the Weather Bureau are based on elegraphic reports of observations, taken at 8 a. m. and 8 p. m., 5th meridian time, from stations in the United States and anada. The reports consist of observations of the barometer nd thermometer, the velocity and direction of the wind, state f the weather, and amount of rain or snow. On the weather naps solid lines, called isobars, are drawn through points that ave the same atmospheric pressure, a line being drawn for each enth of an inch. Dotted lines, called isotherms, are drawn hrough points that have the same temperature, a line being rawn for each ten degrees. The direction of the wind at each tation is indicated by an arrow which flies with the wind. The tate of the weather is indicated by symbols. Shaded areas are sed to show areas within which precipitation occurred during he preceding 24 hours. The tabular data give details of temerature and precipitation during the preceding 24 hours. The ext printed on the maps gives forecasts for the district and staion, and summarizes general and special meteorological features hat are shown by the lines, symbols, and tabulated data.

The centers of areas of low barometric pressure, or general torms, are indicated on the map by the word "low" and the enters of areas of high barometric pressure by the word "high."

In the Northern Hemisphere winds blow spirally inward, ounter-clockwise, toward and around the center of a low, while rom the center of a high they blow spirally outward in a direcion similar to that described by the hands of a clock. In adance of a low, therefore, the winds are southerly and easterly, nd when the low has passed to the eastward, the winds shift to vesterly and northwesterly. Southerly winds prevail to the west f a north and south line passing through the center of a high nd also to the east of a like line passing through the center of a ow. Northerly to westerly winds prevail to the west of a nearly orth and south line passing through the middle of a low and lso east of a similar line passing through the middle of a high.

Apart from the circulation of winds around the centers of low nd high pressure, the whole system of winds has a translatory novement of over 500 miles a day. The general course of lows nd highs in the United States is from west to east, the same as he prevailing winds. Lows usually move in an easterly or orth of east direction and highs in an easterly or south of east irection.

In general there are two rather well-defined storm tracks: the irst from the Canadian Northwest across the Lake Region and ut the St. Lawrence Valley; and the other over the middle Rocky Mountain Region to the Gulf States. After passing to the ulf states, the lows almost invariably recurve up the Ohio Valey, leaving the country by way of the St. Lawrence Valley, or lse cross the Gulf States and recurve up the Atlantic coast. Weather changes over the Canadian Northwest will appear from hree to four days later over the Eastern States.

SUMMARY FOR YEAR 1915, BOSTON, MASS.

Month.	Temperature.							Relative humidity (per cent).		Precipitation.				Suns'ne		Wind.					Number of days.											
	Mean.			Extremes.														Highest.											Max. temp.		Min. temp,	
	Maximum.	Minimum.	Monthly.	Highest.	Date.	Lowest.	Date.	8 a. m.	8 p. m.	Total.	Greatest in 24 hours.	Date.	Snowfall.	Number of hours.	Per cent of possible.	Average hourly velocity.	Prevailing direction.	Velocity.	Direction.	Date.	Gales (40 miles per hour or over).	Clear.	Partly cloudy.	Cloudy.	With precipitation (0.01 in. or more).	Snow.	Thunderstorms.	Dense fog.	32° or below.	90° or above.	32° or below.	0° or below.
January...	40	27	33	62	7	3	30	74	74	6.33	2.13	12–13	7.0	134	45	10.7	nw.	42	n.	13	1	12	3	16	11	7	0	3	7	0	22	0
February .	40	26	33	61	24	10	2	75	68	3.47	1.30	1–2	5.1	166	56	11.1	nw.	32	ne.	12	0	10	8	10	12	4	0	2	4	0	20	0
March.....	44	27	36	60	25	13	3	61	55	T.	......	......	T.	292	79	12.4	nw.	37	w.	26	0	20	8	3	0	0	0	0	1	0	26	0
April......	59	42	51	84	26	30	3	70	70	1.86	0.93	30–1	6.1	220	55	10.7	nw.	36	ne.	3	0	10	8	12	6	2	3	7	0	0	2	0
May	65	48	57	80	22	39	27	63	64	1.64	0.49	21–22	0	299	66	10.5	w.	31	nw.	13	0	13	7	11	9	0	2	0	0	0	0	0
June	71	56	64	87	29	44	3	72	76	1.39	0.69	17	0	291	64	8.8	e.	30	e.	2	0	5	19	6	7	0	3	4	0	0	0	0
July.......	77	63	70	90	13	58	25	80	79	8.85	4.46	1–2	0	275	60	8.1	e.	33	nw.	9	0	8	14	9	15	0	7	3	0	1	0	0
August....	76	62	69	89	16	51	27	80	77	5.63	2.28	4	0	256	60	9.0	w.	31	e.	4	0	9	13	9	14	0	2	0	0	0	0	0
September	74	59	67	94	15	44	28	74	73	0.69	0.59	21	0	275	73	9.2	sw.	42	w.	26	1	14	6	10	2	0	1	0	0	5	0	0
October ...	63	48	56	78	13	37	25	77	77	2.82	1.00	2–3	0	200	58	9.8	sw.	32	ne.	2	0	12	6	13	9	0	1	2	0	0	0	0
November	52	38	45	72	1	29	18	71	64	2.14	0.83	19	0.2	160	54	11.8	w.	38	w.	15	0	13	5	12	9	1	0	0	0	0	3	0
December.	40	28	34	61	18	16	31	76	72	3.94	1.17	13–14	6.7	138	49	11.9	w.	52	ne.	13	2	13	4	14	12	6	1	1	5	0	23	0
Year..	58.9	43.8	51.2	94	Sept. 15	3	Jan. 30	73	71	38.76	4.46	July 1–2	25.1	2705	60	10.3	nw.	52	ne.	Dec 13	4	139	101	125	106	20	20	22	17	6	96	0

MONTHLY AND ANNUAL MEAN TEMPERATURES.

ear	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
871.	26	29	42	47	58	66	71	72	**59**	54	37	28	48.9
872.	27	28	**26**	47	59	69	76	73	64	52	41	23	48.8
873.	25	26	34	45	57	67	73	70	63	54	**33**	32	48.2
874.	30	27	34	**39**	55	66	73	68	64	53	42	31	48.6
875.	**20**	22	31	43	58	67	72	71	61	50	35	30	**46.6**
876.	31	27	33	44	55	69	74	70	60	**48**	41	**22**	47.9
877.	25	**34**	35	44	55	67	71	72	65	52	44	36	50.1
878.	28	31	40	48	56	65	74	70	64	56	41	30	50.2
879.	24	25	34	42	60	65	71	69	62	**58**	39	32	48.4
880.	35	32	33	46	**64**	69	72	71	65	52	38	27	50.3
881.	22	28	37	44	57	62	70	71	**68**	54	44	39	49.6
882.	26	30	36	43	**51**	67	73	72	64	55	39	30	48.8
883.	24	29	31	45	56	**70**	72	68	60	**48**	43	29	47.9
884.	24	31	34	44	55	67	69	70	67	53	41	34	49.0
885.	27	**21**	28	47	53	67	72	68	60	52	44	33	47.6
886.	26	27	33	49	57	63	71	68	63	52	43	28	48.4
887.	25	29	32	44	60	65	75	68	60	52	42	32	48.5
888.	**20**	28	32	43	53	67	69	70	60	**48**	44	35	47.3
889.	36	26	38	48	60	69	69	67	63	**48**	45	38	50.7
890.	32	33	35	46	57	64	71	69	63	51	42	26	49.1
891.	31	32	34	48	56	65	69	70	67	52	41	**40**	50.4
892.	28	28	33	48	56	**70**	73	70	62	53	41	30	49.4
893.	21	27	34	44	56	65	71	70	60	55	42	30	47.9
894.	30	27	42	47	58	69	74	68	65	54	38	32	50.3
895.	29	25	35	46	60	67	69	71	66	50	45	36	49.8
896.	25	29	32	47	60	66	72	71	62	50	**46**	30	49.2
897.	28	31	37	49	58	62	72	70	63	54	41	34	49.9
898.	29	33	43	44	56	66	72	**73**	66	54	42	32	50.8
899.	29	27	34	48	58	**70**	73	69	62	54	42	36	50.2
900.	30	29	34	49	55	69	74	71	65	57	45	33	50.8
901.	28	24	36	44	54	68	73	71	65	54	37	32	49.0
902.	27	29	43	48	58	64	**68**	68	63	54	**46**	28	49.6
903.	27	31	**44**	48	58	**60**	71	**65**	64	54	40	29	49.5
904.	22	23	35	45	61	64	71	69	62	51	38	26	47.1
905.	25	23	37	47	58	65	73	69	62	54	45	35	49.1
906.	36	30	32	47	58	66	70	72	65	52	42	29	50.0
907.	27	22	38	43	52	65	72	70	64	50	43	37	48.7
908.	31	27	39	47	59	**70**	74	69	66	55	44	33	51.2
909.	30	33	37	48	56	69	72	69	63	53	**46**	31	50.5
910.	32	30	42	**52**	58	65	75	69	63	56	41	28	50.8
911.	32	27	35	46	62	66	**77**	69	63	53	42	39	50.9
912.	21	28	36	47	59	68	73	69	64	57	**46**	38	50.5
913.	**39**	28	42	48	55	68	74	71	62	56	**46**	38	**52.3**
914.	29	24	37	45	60	67	69	70	65	57	43	30	49.7
915.	33	33	36	51	57	64	70	69	67	56	45	34	51.2
I'ns	27.8	28.1	35.7	46.1	57.2	66.4	72.0	69.8	63.4	53.0	41.8	31.9	49.4

NOTE.—Bold-faced figures indicate highest and lowest monthly means.

EXTREMES OF TEMPERATURE, 1871-1915.

Month.	Highest.	Year.	Day.	Lowest.	Year.	Day.
anuary	70	1876	1	—13	1882	24
ebruary	64	1880	29	—11	1896 1914	17 12
arch	78	1910	25	— 8	1872	6
pril	87	1914	19	11	1874	5
ay	97	1880	26	31	1882	3
une	98	1874	29	42	1884	2
uly	104	1911	4	46	1874	22
ugust	97	1881 1900	31 26	47	1880 1885 1894 1908	27 28 22 29
eptember	102	1881	7	34	1879 1914	26 29
ctober	90	1881	1	25	1879	26
ovember	76	1909	12	— 2	1875	30
ecember	69	1912	6	—12	1883	23

MONTHLY AND ANNUAL PRECIPITATION.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l
1818..	2.64	3.49	4.05	6.15	5.96	3.47	4.08	0.46	7.81	2.11	1.91	0.86	42.
1819..	0.70	2.27	6.21	3.74	3.06	3.56	2.02	4.38	5.29	1.40	1.22	1.63	35.
1820..	3.12	4.25	4.90	0.45	5.08	3.42	4.19	5.15	2.43	5.39	3.00	2.80	44.
1821..	1.41	4.42	2.53	4.90	4.84	2.79	2.35	1.58	4.73	2.29	3.12	1.93	36.
1822..	1.29	2.34	2.02	2.99	0.78	3.54	4.32	1.20	2.15	2.53	2.58	1.46	**27.**
1823..	3.00	4.57	7.72	2.21	6.40	0.93	5.74	1.98	1.95	3.95	1.92	6.93	47.
1824 .	3.95	5.99	1.81	4.72	1.43	1.60	0.88	3.68	6.43	1.01	1.72	2.80	36.
1825..	2.79	3.43	4.70	0.37	1.36	4.77	1.24	5.62	2.66	3.21	0.81	4.38	35.
1826..	2.55	1.48	3.81	1.50	**0.25**	3.85	2.90	**12.10**	3.03	3.80	2.31	3.56	41.
1827..	3.92	2.97	2.51	4.75	5.34	2.56	2.59	4.88	4.81	5.28	5.71	3.59	48.
1828..	2.15	2.79	1.84	2.00	4.67	1.59	4.58	**0.37**	3.82	2.79	5.55	**0.26**	32.
1829..	4.93	5.62	4.30	3.45	2.71	1.64	6.98	4.95	2.62	1.65	5.74	2.26	46.
1830..	2.36	1.63	3.51	1.21	3.03	3.46	4.90	2.64	5.65	2.38	5.32	5.96	42.
1831..	4.44	3.68	3.07	6.97	3.65	4.32	5.53	5.57	3.83	4.42	3.20	2.93	51.
1832..	4.47	3.74	2.65	5.56	7.27	0.50	3.41	6.14	2.07	2.46	3.57	4.85	46.
1833..	2.96	2.53	2.71	2.30	1.03	3.23	2.01	0.82	2.88	6.00	5.53	5.86	37.
1834..	1.39	1.13	0.96	2.93	6.33	3.09	7.71	2.47	3.71	4.62	2.90	2.36	39.
1835..	3.25	1.37	4.27	4.54	2.07	2.74	9.07	2.89	1.31	1.87	2.08	2.40	37.
1836..	**8.84**	3.57	2.90	1.58	1.85	4.33	2.12	1.53	0.54	4.04	5.43	4.13	40.
1837..	4.10	4.14	3.02	3.07	5.79	2.98	1.80	1.67	0.56	1.58	2.35	2.46	33.
1838..	3.07	2.77	3.09	2.62	3.32	2.55	1.20	4.26	9.87	5.02	3.95	0.80	42.
1839..	0.98	3.11	1.18	7.73	4.27	2.25	3.32	5.70	2.00	2.50	1.71	6.35	41.
1840..	3.12	2.57	4.55	4.60	2.23	2.78	2.93	4.00	2.12	4.48	**11.63**	4.15	49.
1841..	6.00	1.60	3.50	8.82	1.90	1.95	2.10	4.20	2.86	3.80	4.55	5.77	47.
1842..	0.80	3.20	3.35	3.50	2.90	5.30	1.82	4.44	3.25	0.80	4.45	5.30	39.
1843..	2.20	6.08	6.17	3.88	1.60	4.61	2.15	6.88	0.98	4.82	3.40	3.92	46.
1844..	3.68	2.42	6.00	**0.20**	2.72	1.40	2.17	2.62	3.53	5.80	3.15	3.85	37.
1845..	4.58	4.25	3.83	1.23	2.82	2.05	3.28	1.82	2.23	4.00	10.25	5.98	46.
1846..	3.12	2.95	2.73	1.23	2.02	2.25	2.51	1.80	1.30	1.35	4.17	4.52	29.
1847..	3.28	4.70	4.77	2.20	2.03	4.09	2.65	6.45	6.64	1.05	5.12	3.95	46.
1848..	2.30	3.90	4.05	1.40	6.30	1.73	1.35	3.10	3.55	5.10	2.25	5.95	40.
1849..	**0.35**	1.15	7.35	0.90	3.10	1.45	**0.85**	6.25	1.25	8.10	5.50	4.05	40.
1850..	4.59	2.52	5.32	4.82	6.63	2.77	2.70	5.30	7.15	2.10	3.32	6.76	53.
1851..	1.30	4.20	3.88	9.37	3.31	1.80	3.09	1.27	3.50	4.43	5.51	2.65	44.
1852..	4.85	2.85	4.45	10.18	1.95	2.35	3.28	7.63	1.65	2.19	3.47	3.09	47.
1853..	2.44	5.30	2.27	3.78	5.63	0.30	3.64	9.40	3.80	3.92	4.43	3.95	48.
1854..	2.91	4.87	2.84	6.63	4.33	2.47	3.70	0.58	3.86	2.08	6.80	4.64	45.
1855..	7.22	4.67	1.18	4.28	1.20	3.09	4.15	1.46	1.13	4.61	5.27	5.93	44.
1856..	5.32	0.80	1.33	4.37	7.10	2.90	4.02	11.11	4.90	2.70	3.33	4.28	52.
1857..	5.36	2.45	3.09	**10.83**	5.57	2.02	5.53	1.18	2.56	4.50	2.52	5.26	56.
1858..	3.28	2.30	2.18	5.18	3.89	**8.09**	4.56	7.03	5.02	3.03	3.38	4.73	52.
1859..	5.93	4.05	7.64	3.36	3.63	7.89	1.58	4.72	4.40	3.28	3.75	6.47	56.
1860..	1.89	3.85	2.19	1.73	2.35	8.01	5.90	4.30	7.35	2.66	5.37	5.86	51.
1861..	6.04	3.57	7.48	5.89	2.97	3.64	2.76	6.04	1.77	2.66	4.90	2.35	50.
1862..	8.30	3.29	4.70	1.97	2.70	6.78	7.33	4.20	5.61	4.85	8.32	3.01	61.
1863..	4.51	4.54	6.42	9.08	2.82	2.56	**12.38**	5.64	3.12	3.83	6.48	6.34	**67.**
1864..	3.87	1.43	**11.75**	4.72	3.31	1.47	1.90	4.17	2.60	4.80	4.00	5.28	49.
1865..	4.47	5.08	4.83	2.57	6.90	2.83	4.26	1.42	0.62	6.21	4.46	4.18	47.
1866..	3.73	5.28	4.70	2.03	5.04	3.41	5.42	3.87	5.90	2.72	3.74	4.86	50.
1867..	6.06	6.55	6.12	2.52	4.11	2.74	4.76	10.78	0.44	6.76	2.32	2.48	55.
1868..	6.09	1.88	5.04	6.94	**10.38**	3.79	1.10	7.53	**11.95**	1.78	5.31	2.32	64.
1869..	4.03	**9.98**	8.74	2.05	6.88	4.44	3.30	2.19	5.18	6.71	3.74	**9.04**	66.
1870..	8.16	7.03	4.88	8.42	2.58	7.59	4.01	1.57	0.67	6.80	4.40	3.62	59.
1871..	0.92	2.63	4.55	3.79	4.34	5.55	3.22	3.08	1.30	5.88	6.42	3.38	45.
1872..	2.11	2.31	4.05	1.31	3.29	4.84	4.00	10.68	6.04	4.85	3.66	3.09	50.
1873..	5.76	3.21	3.76	3.83	5.16	0.54	3.84	6.21	2.91	5.33	8.34	5.64	54.
1874 .	4.32	3.41	1.60	7.97	3.71	3.94	3.47	6.67	2.05	1.39	2.85	2.14	43.
1875..	3.68	3.74	5.04	4.92	3.76	7.25	3.93	3.50	3.12	4.99	5.47	0.75	50.
1876..	1.87	4.54	7.19	3.61	2.70	1.72	5.86	1.23	3.84	1.66	11.03	3.71	48.
1877..	3.33	**0.45**	9.79	4.19	3.38	3.21	2.27	4.49	0.60	**8.84**	9.62	1.32	51.
1878..	7.60	4.40	5.91	6.14	1.03	2.28	4.58	7.66	3.47	6.76	8.94	6.76	65.
1879..	2.79	4.35	3.90	6.58	0.97	6.24	3.09	6.71	1.84	0.91	2.97	4.22	44.
1880..	3.72	4.11	3.25	2.85	1.63	0.75	6.86	2.90	2.36	3.15	2.30	3.42	37.
1881..	7.21	4.89	9.86	1.66	4.16	7.79	2.96	1.23	2.50	2.84	3.73	3.80	52.
1882..	3.68	4.77	3.35	2.50	6.05	1.03	3.91	1.46	10.93	2.29	1.20	2.65	43.
1883..	3.59	2.74	2.33	2.83	5.11	2.07	2.73	0.39	1.50	6.40	2.08	3.71	35.
1884..	6.27	5.74	4.86	4.76	3.31	4.01	4.25	5.01	**0.31**	3.17	3.03	4.46	49.
1885..	5.33	3.00	1.15	3.30	4.26	3.70	1.44	7.64	1.70	5.71	5.78	2.09	45.
1886..	7.08	7.04	3.20	1.70	3.08	1.34	1.81	3.64	2.73	3.27	3.59	3.66	42.
1887..	4.86	3.69	3.86	2.62	1.67	1.98	3.59	3.05	0.97	2.53	2.22	2.71	33.
1888..	2.26	2.36	3.32	2.04	5.20	2.69	1.79	6.53	6.77	3.58	4.97	4.38	45.
1889..	4.11	1.54	1.19	3.07	4.15	2.77	5.80	3.95	3.19	3.31	4.91	1.83	39.
1890..	2.00	2.29	5.88	2.29	4.48	2.21	1.93	2.70	5.04	5.63	0.97	3.72	39.
1891..	4.39	3.66	3.94	1.71	1.56	3.06	3.73	3.87	2.29	5.56	2.35	3.58	39.
1892..	4.62	2.15	3.91	0.93	5.15	3.05	2.56	4.87	1.90	2.31	4.45	1.12	37.
1893..	2.56	6.22	2.80	3.13	5.23	2.20	1.72	6.46	1.59	2.94	1.83	5.16	41.

MONTHLY AND ANNUAL PRECIPITATION—Continued.

ar.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
4..	3.01	3.15	1.01	3.78	4.12	0.80	3.09	3.03	2.14	5.11	3.10	4.28	36.62
5..	3.79	1.11	2.72	3.65	2.71	1.73	2.98	3.24	1.53	6.19	8.07	2.45	40.17
6..	2.25	3.94	5.41	1.56	1.68	2.71	2.90	2.15	6.40	3.15	3.70	1.70	37.55
7..	3.16	2.12	2.79	3.17	4.00	4.46	4.22	3.95	2.38	**0.41**	6.19	3.92	40.77
8..	3.50	4.81	1.82	6.39	4.33	1.60	4.42	6.38	1.93	7.17	5.32	2.19	49.86
9..	4.19	3.03	5.95	1.29	0.81	2.86	2.52	2.52	5.09	2.40	2.51	1.52	34.69
0..	4.20	6.83	4.60	1.90	5.07	1.85	2.69	2.46	4.62	3.41	4.17	2.25	44.05
1..	1.56	0.66	6.58	7.43	6.31	1.31	5.20	3.25	2.50	3.02	2.41	8.49	48.72
2..	1.65	4.19	5.29	2.87	1.07	1.77	2.88	2.20	2.08	4.36	1.09	4.48	33.93
3..	3.43	3.90	5.95	4.43	0.32	7.19	2.99	3.33	2.43	3.95	1.48	2.57	41.97
4..	4.80	2.49	2.43	9.14	3.38	2.06	1.23	2.19	5.57	2.13	1.70	2.52	39.64
5..	4.09	1.59	2.25	2.14	1.47	5.23	1.00	3.39	5.10	0.82	1.77	3.23	32.08
6..	2.96	2.66	5.45	2.15	4.91	2.57	5.38	1.58	2.64	3.88	2.55	3.96	40.69
7..	2.54	1.88	1.66	3.31	3.12	2.56	1.09	1.10	7.43	2.54	6.02	4.31	37.56
8 .	2.47	2.96	2.97	1.70	3.78	1.08	3.17	4.35	0.68	3.70	**0.74**	2.47	30.07
9..	3.94	4.71	3.28	3.92	2.33	4.45	0.97	3.55	5.15	1.07	4.11	3.19	40.67
10..	4.25	3.44	1.25	2.22	1.02	4.89	1.15	0.98	2.14	1.14	3.75	2.10	28.33
11..	2.28	2.85	2.95	2.28	0.35	3.67	4.65	4.17	2.95	2.27	4.29	3.07	35.78
12..	2.87	2.38	4.18	3.07	4.04	**0.27**	5.16	1.94	1.67	1.00	2.61	5.36	34.55
13..	2.38	2.99	4.81	4.77	3.22	0.64	2.69	2.86	2.51	6.04	2.15	3.05	38.11
14..	3.26	3.07	4.16	5.87	2.78	1.40	2.64	3.20	**0.21**	1.54	2.72	3.46	34.31
15..	6.33	3.47	T.	1.86	1.64	1.39	8.85	5.63	0.69	2.82	2.14	3.94	38.76
'ns	*3.71	3.37	3.92	3.48	3.24	2.90	3.36	3.81	3.04	3.59	3.90	3.37	41.69
'ns	†3.73	3 49	4.05	3.79	3.54	3.09	3.52	4.02	3.35	3.61	4.04	3.74	44.04

NOTE.—Bold-faced figures indicate greatest and least monthly amounts.

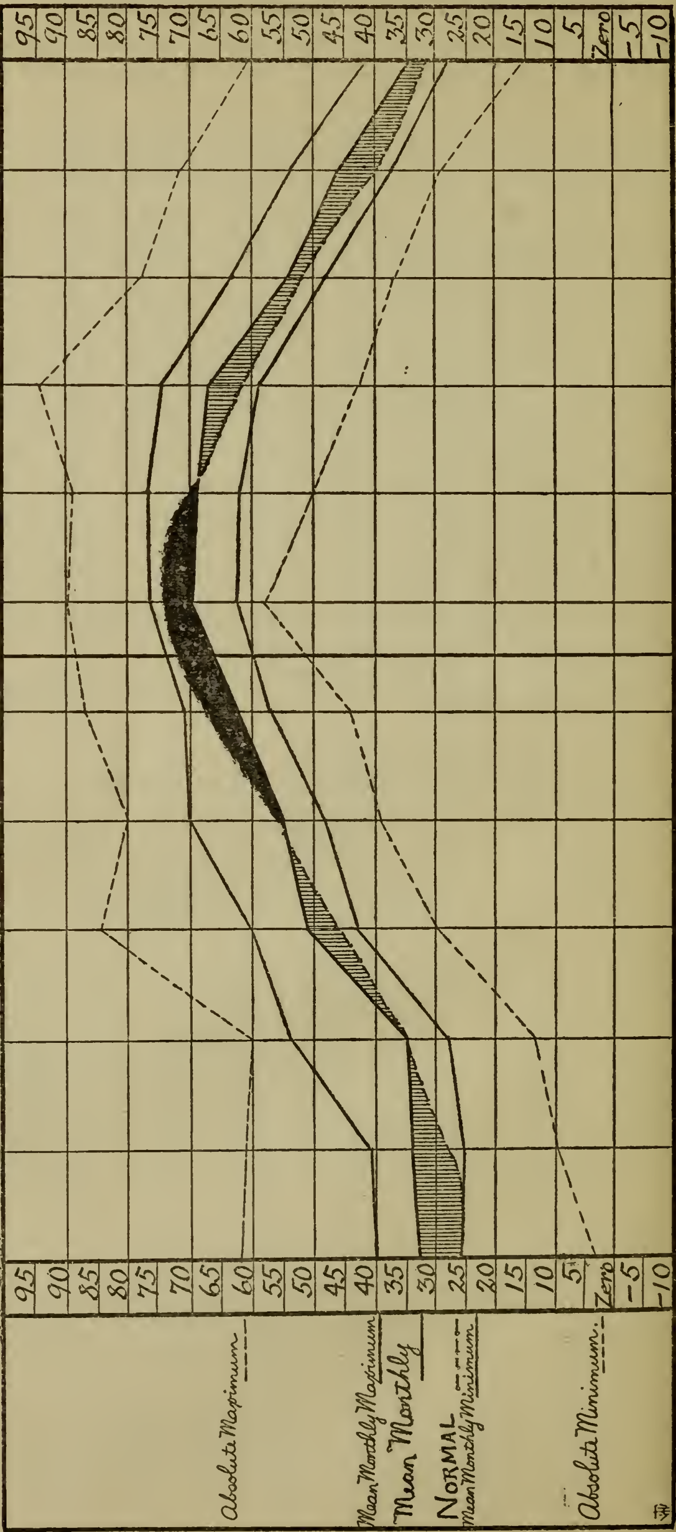
* Computed from the Weather Bureau records of 45 years.

† Computed from the 98-year record, the data of years prior to 1871 being furnished Mr. I. Y. Chubbuck, of Roxbury.

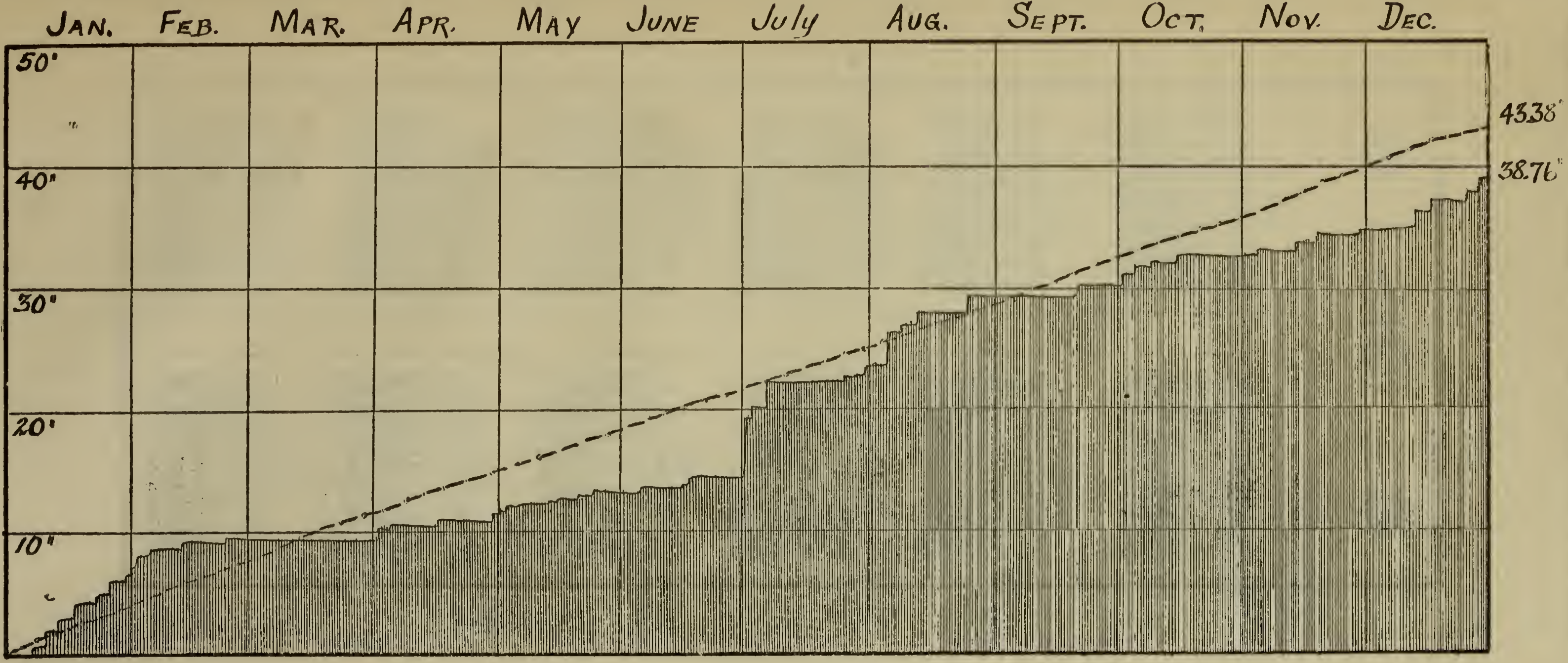
EXTREMES OF PRECIPITATION AND WIND.

Month.	Precipitation. 1871-1915			Wind. 1871-1915			
	Greatest in 24 hours.	Year.	Day.	Highest velocity.	Direction.	Year.	Day.
nuary	3.25	1881	21-22	64	ne.	1886	9
bruary	4.45	1886	12	60	e.	1880	3
rch	3.04	1877	26-27	72	s.	1877	9
pril	3.18	1904	27-28	60	ne.	1891	3
y	3.00	1883	22	48	e.	1893	4
ne	5.35	1875	9-10	41	e.	1903	12
ly	4.46	1915	1-2	60	sw.	1879	16
gust	4.99	1879	18-19	48	s.	1893	29
ptember	4.26	1905	3-4	60	n.	1888	26
tober	4.92	1895	12-13	54	ne.	1890	19
vember	5.43	1876	20-21	65	w.	1875	29
cember	2.87	1888	17-18	60	e.	1900	5

TEMPERATURE CHART, 1915.



Partly shaded area shows excess and black area shows deficiency from normal.



The dotted line represents the normal accumulated precipitation, in inches. The solid line shows the accumulated precipitation, in inches, during 1915.

1915

JANUARY

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

FEBRUARY

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

MARCH

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

APRIL

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

MAY

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

JUNE

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

JULY

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

AUGUST

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

SEPTEMBER

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

OCTOBER

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

NOVEMBER

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

DECEMBER

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	